

Keller & Kalmbach

Fastening technology

08/14

Fastening technology discount group overview


DG	designation	DG	designation
201	Bolt anchor option 1	209	Stand-off fastening
2014	Fischer FAZ II zinc-plated, MKT BZ plus zinc-plated	2090	Fischer renovation wall tie anchor VBS-M, VBS-8, Fischer weather shell renovation system FWS
2017	Fischer FAZ II stainless, MKT BZ plus stainless	2091	Fischer VB wall tie anchor, Fischer S 10 J and JS adjustment dowel, Fischer Thermax stand-off installation system
202	Bolt anchor option 7	2093	Fischer F-S window frame dowel
2024	Fischer EXA	2094	KEW concrete frame screw, Koelner concrete frame screw
2025	Fischer FBN II cpl.	2096	Toge TU and TK window frame dowel
2027	MKT B cpl.	2098	Fischer ASL distance screw, Fischer I F-M metal frame screw, Fischer FFSZ and FFS window frame screws, Fischer JUSS adjustment screw
203	Zinc-plated steel anchor	210	Scaffolding and insulation fasteners
2030	Fischer TA M/SL M heavy-duty anchor,	2101	Fischer accessories for scaffolding and insulation fasteners ADT, RI, DHM
2031	Fischer Zykon FZA, Fischer Zykon FZEA II	2103	Fischer insulation fastener DIPK, FIF-K/S, DVN, DHT, FID, FATB, FAFZH, insulation plate
2033	Fischer accessories FZUB, FZEB, FZE plus, Fischer FH II SB high-performance anchor	2104	Fischer scaffolding fastener GS, S 14 ROE, S 16 H, FI G, S 12 R, S 14 H
2034	Fischer high performance anchor FH II	2105	Fischer insulation fastener DHK, DHM inox, DHM
2035	Sormat Liebig heavy-duty anchor	2107	Allfa insulation fastener
2037	MKT SZ and SL heavy-duty anchors	211	Easy fastening
204	Stainless steel anchor	2112	Fischer M-S, M, MS, GB, FMD, TB/TBB, FTP K, FTP M, PA, P 9 K, Fix it, TS, FU, Fischer accessories for FTP EK, FTP EM, Fischer assortments UX, SX, S, TB, TBB, TS, FU, MKT DU
2040	Fischer Zykon FZA, Fischer Zykon FZEA II	2114	TOX TRI, TRIKA, TFS
2044	Fischer high performance anchor FH II	2115	Fischer UX, SX, S, Mungo perforated brick dowel
2046	MKT SZ and SL heavy-duty anchors	2117	Lüsebrink ceiling hook
205	Concrete screw	2118	SMK brass dowel
2050	Heco Multi Monti, Fischer U washer for FBS	2119	Fakkt universal dowel
2056	Fischer FBS	212	Cavity fastener
206	Steel dowel with approval	2121	Fischer nylon toggle dowel K 54, Fischer PD board anchor, Fischer GK and GKM plasterboard anchor
2060	Fischer FPX aerated concrete anchor	2122	Fischer accessories for HM Z, GKW
2063	Fischer EA IM12 D hammer set anchor, Fischer FNA II A4/C nail anchor, Fischer FHY hollow ceiling anchor, Toge TD-N ceiling anchor	2124	Fischer toggle and spring toggle anchors K, KD, KDH, KM, Mungo plasterboard dowel
2065	MKT N nail anchor, Fischer FNA II zinc-plated nail anchor	2125	Allfa M, Allfa installation pliers KTS HDK, KTS, lamella nails
2066	Fischer hammer set anchor EA II	2126	Fischer cavity dowel HM
2067	MKT TDN/DZ ceiling nail	2127	MKT GKD plasterboard dowel
2068	Fischer FDN ceiling nail	2128	SMK toggle anchor
2069	MKT hammer set anchor E	213	Chemical fasteners (cartridges)
207	Other steel dowels	2130	Toge ATA cartridge
2070	Fischer FWB expansion anchor, Fischer FSA sleeve anchor, Fischer FDBB diamond fastener, Fischer MR wall screw	2131	Fischer FIS VW, EM, Fischer fill & fix cartridge
2071	Fischer accessories EA II SDS, EAW plus, EA-ST, FNA S, FABS, Kölner Rawlbolt	2132	Fakkt cartridge case set, MKT cartridge case set
2075	MKT accessories for hammer set anchors	2133	Fischer FHB II cartridge
2078	MKT Easy hollow ceiling anchor, MKT ED hammer set anchor	2134	Fischer cartridge FIS V, HB, PM, SB, Fischer case sets
208	Long-shaft dowel		
2081	Fischer FNH nail sleeve, Fischer N A2 nail anchor, MKT ND nail anchor		
2082	Fischer accessories for ADT, Fischer accessories for GBS, Fischer accessories for FFS A		
2083	TOX VLF frame dowel		
2084	Fischer SXR, SXRL, FUR, SXS, S frame dowels		
2085	Fischer U washer, Allfa Quick nail sleeve		
2087	Allfa nail anchor, Fakkt nail anchor, Kölner nail anchor, Don Quichotte Speedplug, flattener		
2088	KTS KT frame dowel		
2089	Fischer N zinc-plated nail anchor		

Fastening technology discount group overview


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2135	Sormat ITH VS cartridge	220	Sanitary fasteners
2136	MKT VMZ, VMU, PY, Fakkt VMU cartridge Fischer RSB, R M, UMV-P cartridge	2201	Fischer accessories for BU, AKM, HED
2137	MKT V-P cartridge	2202	Fischer sanitary fasteners WDP 33, WCN, S 8 RD, WB 5N, WD, BO, WST, UST, WL
214	Chemical fasteners (zinc-plated anchor rods)	2204	Fischer KM sanitary fasteners
2140	Fischer FRA, FIS PS anchor rod	221	Pipe clips
2142	Fischer FHB II, FHB II-A dyn. anchor rod	2211	Fischer FGRS plus, FRSL pipe clamps
2143	Fischer UMV-A dyn. anchor rod	2213	Fischer FGRS, FKS plus, FRS plus, FRS, FRSN, FRSK, KFT pipe clamps
2147	Fischer FPB Set, RG, FIS A, MKT anchor rod VMU-A, VMU-AH, VMZ-A	2216	Fischer FRSH, FRSM, ETR, SGS pipe clamps
2148	MKT V-A, VM-A anchor rod	222	Installation system
215	Chemical fasteners (stainless anchor rods)	2221	Fischer fixed point and sliding elements FFPS, FFPK, FSFP
2150	Fischer FHB II-A dyn. anchor rod	2222	Fischer accessories for installation systems
2151	Fischer FHB II anchor rod	2224	Fischer MS-L, MS, FUS assembly rails
2154	Fischer FPB Set, RG, FIS A, MKT VMU-A anchor rod	2225	Fischer rail connections fixed point and sliding elements for systems MS-L, MS, FUS, Fischer hanging material
2157	MKT VMU-AH, VMZ-A, V-A anchor rod	223	Stainless installation system
216	Chemical fasteners (internally threaded anchor)	2233	Fischer installation accessories for stainless steel product range
2160	Durabel TSM A	2236	Fischer A2/A pipe clamps4
2161	Fischer FIS E	224	Air conditioning, ventilation, metal ceiling fasteners
2163	MKT VI-G zinc-plated	2241	Fischer MCE fasteners for air conditioners
2165	Fischer RG MI	2243	Fischer LGS ventilation duct clamps
2167	MKT VI-G A4, VMU-IG, VM-IG, VMU-AH	2244	Fischer accessories for air conditioning, ventilation, ceiling
217	Chemical fasteners (other)	2245	MTH clamping plates, BS clamping plates
2170	Toge accessories	2248	Fischer installation accessories for air conditioning, ventilation, ceiling, LKHN, LKH, ZKHN, ZKH, LRBN, LRB, EMS, TZ, TZH“
2171	Fischer FCC	225	Fischer other
2172	Accessories (application guns, mixers, brushes, blowers, tapered drills, etc.)	2250	Fischer SB assortment, Fischer pro assortment
2173	Fischer FIS H sieve sleeve, MKT VMU-SH sieve sleeve	2251	Fischer SB, pro assortment installation, Fischer stone drill, Fischer pro bits
2174	MKT VM-SH sieve sleeve	2252	Fischer SDS Max plus II drilling tool, Fischer SDS Max I drilling tool
218	Wood connectors, nails, blocks	2254	Fischer SDS plus II drilling tool, Fischer bits
2180	BTS disk dowel, Göbel cover caps, Harpun blocks	2255	Fischer SDS plus IV drilling tool
2181	Gutzeit roof nail	226	Direct installation
2182	BTS spherical washer, Drakena rafter nails	2261	Fischer driving bolts, Fischer formwork stop, Fischer film fastener, Fischer insulation holder, Fischer ceiling fastener
2183	Drakena wire and deck nails, Bentele rod dowels, wall connection bolts, Honecker knock-in cap		
2185	Gutzeit wood connectors, Müller cover caps, Scholtyschik post anchors, Simpson connectors and nails, Bierbach screws and nails		
2187	Don Quichotte nails		
2189	Göbel rosettes		
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2191	Fischer E-Fix products SHA, plus MS, WIC, WIS, WI, WIZ		
2193	Fischer E-Fix products LS, ZS, SD, KB, NS, MNS, NSB, BN, Störing & Brückmann punched strip		
2194	Fischer BN/UBN cable ties, Kunkel spacing clamps, Störing & Brückmann eyelets		
2197	Don Quichotte electrical fasteners, clamps, multi-use clips, Fixpins, installation tape		

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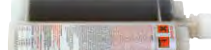


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**Heavy-duty anchors,
light and special fasteners,
chemical anchorings,
composite and injection systems**

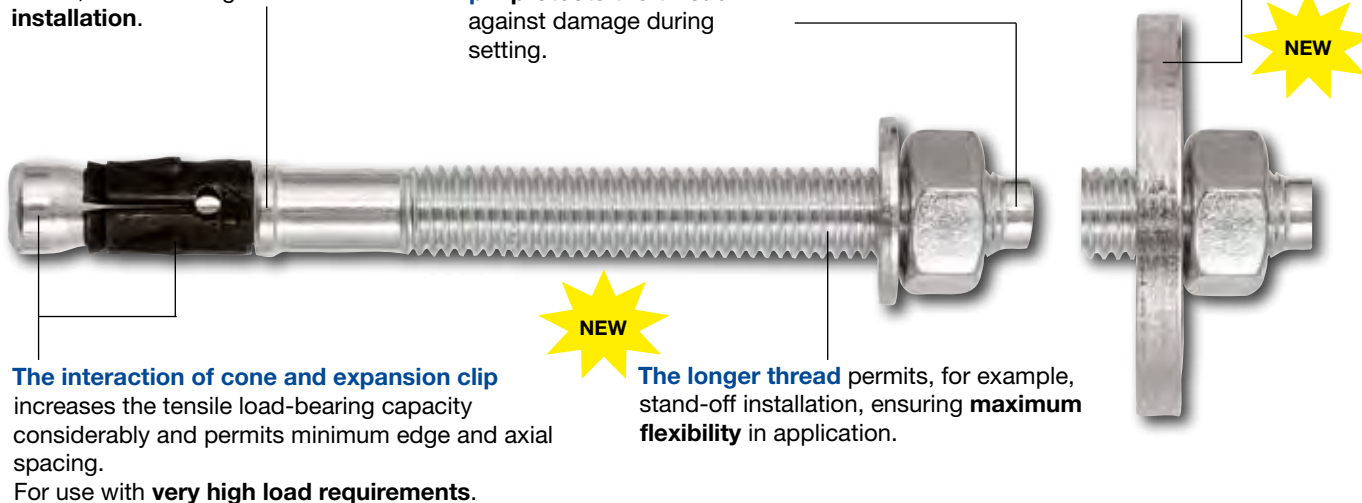
① FAZ II bolt anchor - powerful and flexible



The **distinct edge** holds the expansion clip in its position even when reinforcements are hit, thus ensuring **secure installation**.

The **protruding insertion pin** protects the thread against damage during setting.

Optionally with **pre-installed normal U washer or large GS U washer**. **NEW: Now also with HBS U washer** according to timber building standard DIN 1052 (not pre-installed).

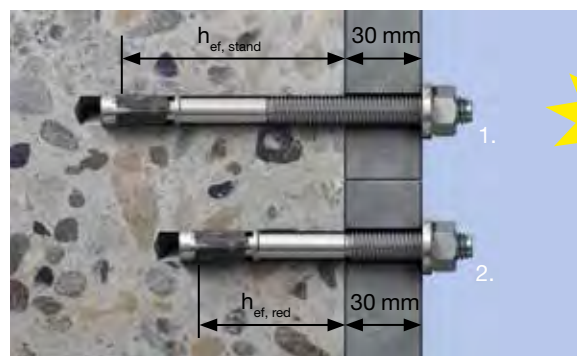


The **interaction of cone and expansion clip** increases the tensile load-bearing capacity considerably and permits minimum edge and axial spacing. For use with **very high load requirements**.

The **longer thread** permits, for example, stand-off installation, ensuring **maximum flexibility** in application.

Drilled and installed faster

The reduced anchoring depth makes it possible



Example of an application with a fixture thickness of 30 mm

Very high load at standard anchoring depth
FAZ II 10/30

standard anchoring depth = 60 mm. Possible working length up to 30 mm maximum with a permissible tensile load of **4.3 kN** and transverse load of **11.4 kN**.

Speedy installation thanks to reduced anchoring depth
FAZ II 10/10

reduced anchoring depth = 40 mm. Possible working length up to 30 mm maximum with a permissible tensile load of **4.3 kN** and transverse load of **8.7 kN**.

Powerful and flexible

The FAZ II is suitable for pre- and push-through installation and also optimal for stand-off installation. When the nut is tightened, the cone bolt is pulled into the expansion clip and braces against the borehole wall. When the specified torque is achieved, the anchor is set in compliance with the approval.

Advantages:

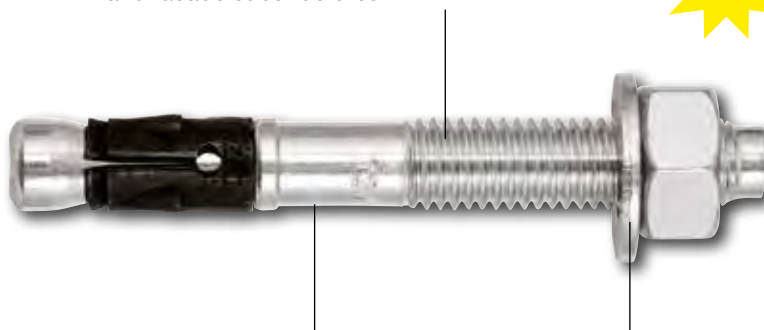
- reinforced expansion clip permits very high load-bearing capacities, resulting in fewer fastening points and smaller anchor bases being required
- reduced anchoring depth (see example) permits considerably lower drilled hole depths, ensuring tangibly faster installation
- few hammer blows and the minimum tightening slip ensure a perceivably simple and comfortable setting process
- international approvals guarantee maximum safety and very high efficiency. Applications in earthquake zones (seismic) are covered by these approvals as well



① FAZ II K bolt anchor - powerful and flexible

fischer
innovative solutions

The **shorter bolt** with reduced anchoring depth is the **economical choice** for a variety of applications, such as fastening cable lines and facade substructures.



The **10 new dimensions** of the FAZ II K in a galvanically zinc-plated design as well as in stainless steel can be used up to a fixture thickness of 20 mm.

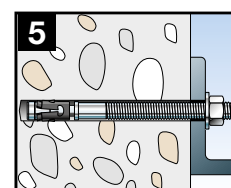
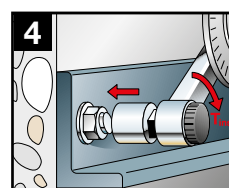
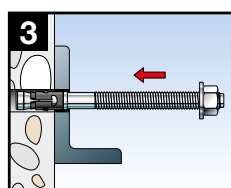
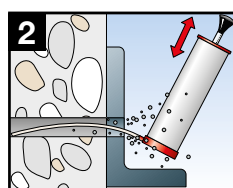
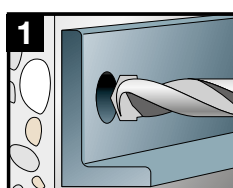
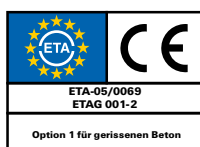
Optionally with **normal U washer** or **large GS U washer**.

Short and practical

The FAZ II is suitable for pre- and push-through installation. The low borehole depth of the K version permits even faster installation and reduces the number of reinforcement hits.

Advantages:

- the properties of the K version significantly minimize the drilling effort as well as the hammer blows when the bolt anchor is inserted; this saves energy and installation time
- reinforced expansion clip permits a high load-bearing capacity, even with a reduced anchoring depth. This ensures an unbeatable price-performance ratio
- for the FAZ II 10 K (borehole diameter 10 mm), the tensile loads are unchanged compared to the standard anchoring depth, thus ensuring maximum performance



Fischer anchor bolts FAZ II (Standard-Version)

Approved by the building authorities: European Technical Approval, Option 1, approval no. ETA-05/0069. Concrete C20/25 to C50/60, cracked. Concrete C20/25 to C50/60, non-cracked

Application: The Fischer FAZ II bolt anchors are used to fasten medium-weight to heavy objects in concrete. Main areas of application include metal structures of all kinds, wooden construction, substructures, machinery, devices and much more.

Properties: The Fischer FAZ II bolt anchors are suitable for pre-installation and push-through installation and also optimal for stand-off installation thanks to the longer thread. Applications in earthquake zones (seismic) are covered by these approvals as well.

Installation instructions: Installation only permitted with torque wrench. When the specified torque is achieved, the anchor is set in compliance with the approval.

Advantages:

- very high load-bearing capacities with few fastening points
- reduced anchoring depth for faster installation and lower borehole depth
- minimum tightening slip for a simple and comfortable setting process
- international approvals for maximum safety and very high efficiency (applications in earthquake areas (seismic) are also covered by these approvals)



galvanized

DG 2014

Item no.	Type	Drill Ø	Min. borehole depth for push-through installation	Dowel length	Thread Ø x length mm	Standard anchoring depth with corresponding working length (working length = clamping range)		Reduced anchoring depth with corresponding working length (working length = clamping range)		Price per 100 pieces	Pack- age contents
						$h_{ef, stand.}$	t_{fix}	$h_{ef, red.}$	t_{fix}		
62640810	FAZ II 8/10	8 mm	65 mm	75 mm	M 8 x 38	45 mm	10 mm	-	-	•	50
62640830	FAZ II 8/30	8 mm	85 mm	95 mm	M 8 x 58	45 mm	30 mm	-	-	•	50
62640850	FAZ II 8/50	8 mm	105 mm	115 mm	M 8 x 40	45 mm	50 mm	-	-	•	50
626408100	FAZ II 8/100	8 mm	155 mm	165 mm	M 8 x 41	45 mm	100 mm	-	-	•	25
626408160	FAZ II 8/160	8 mm	215 mm	225 mm	M 8 x 42	45 mm	160 mm	-	-	•	20
626401010	FAZ II 10/10	10 mm	85 mm	95 mm	M 10 x 53	60 mm	10 mm	40 mm	30 mm	•	50
626401020	FAZ II 10/20	10 mm	95 mm	105 mm	M 10 x 63	60 mm	20 mm	40 mm	40 mm	•	25
626401030	FAZ II 10/30	10 mm	105 mm	115 mm	M 10 x 73	60 mm	30 mm	40 mm	50 mm	•	25
626401050	FAZ II 10/50	10 mm	125 mm	135 mm	M 10 x 93	60 mm	50 mm	40 mm	70 mm	•	20
626401080	FAZ II 10/80	10 mm	155 mm	165 mm	M 10 x 123	60 mm	80 mm	40 mm	100 mm	•	20
6264010100	FAZ II 10/100	10 mm	175 mm	185 mm	M 10 x 143	60 mm	100 mm	40 mm	120 mm	•	20
6264010160	FAZ II 10/160	10 mm	235 mm	245 mm	M 10 x 193	60 mm	160 mm	40 mm	180 mm	•	20
626401210	FAZ II 12/10	12 mm	100 mm	110 mm	M 12 x 61	70 mm	10 mm	50 mm	30 mm	•	20
626401220	FAZ II 12/20	12 mm	110 mm	120 mm	M 12 x 71	70 mm	20 mm	50 mm	40 mm	•	20
626401230	FAZ II 12/30	12 mm	120 mm	130 mm	M 12 x 81	70 mm	30 mm	50 mm	50 mm	•	20
626401250	FAZ II 12/50	12 mm	140 mm	150 mm	M 12 x 101	70 mm	50 mm	50 mm	70 mm	•	20
626401280	FAZ II 12/80	12 mm	170 mm	180 mm	M 12 x 131	70 mm	80 mm	50 mm	100 mm	•	20
6264012100	FAZ II 12/100	12 mm	190 mm	200 mm	M 12 x 151	70 mm	100 mm	50 mm	120 mm	•	20
6264012160	FAZ II 12/160	12 mm	250 mm	260 mm	M 12 x 186	70 mm	160 mm	50 mm	180 mm	•	10
6264012200	FAZ II 12/200	12 mm	290 mm	300 mm	M 12 x 186	70 mm	200 mm	50 mm	220 mm	•	10
626403165	FAZ II 16/5	16 mm	115 mm	128 mm	M 16 x 64	85 mm	5 mm	65 mm	25 mm	•	10
626401625	FAZ II 16/25	16 mm	135 mm	148 mm	M 16 x 84	85 mm	25 mm	65 mm	45 mm	•	10
626401650	FAZ II 16/50	16 mm	160 mm	173 mm	M 16 x 109	85 mm	50 mm	65 mm	70 mm	•	10
6264016100	FAZ II 16/100	16 mm	210 mm	223 mm	M 15 x 159	85 mm	100 mm	65 mm	120 mm	•	10
6264016160	FAZ II 16/160	16 mm	270 mm	283 mm	M 16 x 189	85 mm	160 mm	65 mm	180 mm	•	10
6264016200	FAZ II 16/200	16 mm	310 mm	323 mm	M 16 x 189	85 mm	200 mm	65 mm	220 mm	•	10
6264016250	FAZ II 16/250	16 mm	360 mm	373 mm	M 16 x 100	85 mm	250 mm	65 mm	270 mm	•	10
6264016300	FAZ II 16/300	16 mm	410 mm	423 mm	M 16 x 100	85 mm	300 mm	65 mm	320 mm	•	10
626402030	FAZ II 20/30	20 mm	155 mm	172 mm	M 20 x 54	100 mm	30 mm	-	-	•	5
626402060	FAZ II 20/60	20 mm	185 mm	202 mm	M 20 x 84	100 mm	60 mm	-	-	•	5
6264020160	FAZ II 20/160	20 mm	285 mm	302 mm	M 20 x 100	100 mm	160 mm	-	-	•	5
626402430	FAZ II 24/30	24 mm	185 mm	205 mm	M 24 x 58	125 mm	30 mm	-	-	•	5
626402460	FAZ II 24/60	24 mm	215 mm	235 mm	M 24 x 88	125 mm	60 mm	-	-	•	5

Continuation of Fischer anchor bolts FAZ II (Standard-Version)
**Stainless
steel A4**

DG 2017

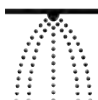
Item no.	Type	Drill Ø	Min. borehole depth for push- through installa- tion	Dowel length	Thread Ø x length mm	Standard anchoring depth with correspond- ing working length (working length = clamping range)		Reduced anchoring depth with correspond- ing working length (working length = clamping range)		Price per 100 pieces	Pack- age con- tents
						$h_{ef, stand.}$	t_{fix}	$h_{ef, red.}$	t_{fix}		
62643810	FAZ II 8/10	8 mm	65 mm	75 mm	M 8 x 38	45 mm	10 mm	-	-	•	50
62643830	FAZ II 8/30	8 mm	85 mm	95 mm	M 8 x 58	45 mm	30 mm	-	-	•	50
62643850	FAZ II 8/50	8 mm	105 mm	115 mm	M 8 x 40	45 mm	50 mm	-	-	•	50
626431010	FAZ II 10/10	10 mm	85 mm	95 mm	M 10 x 53	60 mm	10 mm	40 mm	30 mm	•	50
626431020	FAZ II 10/20	10 mm	95 mm	105 mm	M 10 x 63	60 mm	20 mm	40 mm	40 mm	•	50
626431030	FAZ II 10/30	10 mm	105 mm	115 mm	M 10 x 73	60 mm	30 mm	40 mm	50 mm	•	50
626431050	FAZ II 10/50	10 mm	125 mm	135 mm	M 10 x 93	60 mm	50 mm	40 mm	70 mm	•	20
626431070	FAZ II 10/70	10 mm	145 mm	155 mm	M 10 x 113	60 mm	70 mm	40 mm	90 mm	•	20
62643101001	FAZ II 10/100	10 mm	175 mm	185 mm	M 10 x 143	60 mm	100 mm	40 mm	120 mm	•	20
62643101601	FAZ II 10/160	10 mm	235 mm	245 mm	M 10 x 193	60 mm	160 mm	40 mm	180 mm	•	20
626431210	FAZ II 12/10	12 mm	100 mm	110 mm	M 12 x 61	70 mm	10 mm	50 mm	30 mm	•	20
626431220	FAZ II 12/20	12 mm	110 mm	120 mm	M 12 x 71	70 mm	20 mm	50 mm	40 mm	•	20
626431230	FAZ II 12/30	12 mm	120 mm	130 mm	M 12 x 81	70 mm	30 mm	50 mm	50 mm	•	20
626431250	FAZ II 12/50	12 mm	140 mm	150 mm	M 12 x 101	70 mm	50 mm	50 mm	70 mm	•	20
626431260	FAZ II 12/60	12 mm	150 mm	160 mm	M 12 x 111	70 mm	60 mm	50 mm	80 mm	•	20
6264312100	FAZ II 12/100	12 mm	190 mm	200 mm	M 12 x 151	70 mm	100 mm	50 mm	120 mm	•	20
6264312160	FAZ II 12/160	12 mm	250 mm	260 mm	M 12 x 186	70 mm	160 mm	50 mm	180 mm	•	20
62643165	FAZ II 16/5	16 mm	115 mm	128 mm	M 16 x 64	85 mm	5 mm	65 mm	25 mm	•	20
626431625	FAZ II 16/25	16 mm	135 mm	148 mm	M 16 x 84	85 mm	25 mm	65 mm	45 mm	•	20
626431650	FAZ II 16/50	16 mm	160 mm	173 mm	M 16 x 109	85 mm	50 mm	65 mm	70 mm	•	20
6264316100	FAZ II 16/100	16 mm	210 mm	223 mm	M 16 x 159	85 mm	100 mm	65 mm	120 mm	•	10
626432030	FAZ II 20/30	20 mm	155 mm	172 mm	M 20 x 54	100 mm	30 mm	-	-	•	4
626432060	FAZ II 20/60	20 mm	185 mm	202 mm	M 20 x 84	100 mm	60 mm	-	-	•	4
626432430	FAZ II 24/30	24 mm	185 mm	205 mm	M 24 x 58	125 mm	30 mm	-	-	•	4
626432460	FAZ II 24/60	24 mm	215 mm	235 mm	M 24 x 88	125 mm	60 mm	-	-	•	4

Steel, highly corrosion-resistant (C)

DG 2017

Item no.	Type	Drill Ø	Min. borehole depth for push- through installa- tion	Dowel length	Thread Ø x length mm	Standard anchoring depth with correspond- ing working length (working length = clamping range)		Reduced anchoring depth with correspond- ing working length (working length = clamping range)		Price per 100 pieces	Pack- age con- tents
						$h_{ef, stand.}$	t_{fix}	$h_{ef, red.}$	t_{fix}		
62501428	FAZ II 8/10	8 mm	65 mm	75 mm	M 8 x 38	45 mm	10 mm	-	-	•	10
62501429	FAZ II 8/30	8 mm	85 mm	95 mm	M 8 x 58	45 mm	30 mm	-	-	•	10
62506437	FAZ II 8/50	8 mm	105 mm	115 mm	M 8 x 40	45 mm	50 mm	-	-	•	10
62501430	FAZ II 10/10	10 mm	85 mm	95 mm	M 10 x 53	60 mm	10 mm	40 mm	30 mm	•	10
62503185	FAZ II 10/30	10 mm	105 mm	115 mm	M 10 x 73	60 mm	30 mm	40 mm	50 mm	•	10
62503186	FAZ II 12/10	12 mm	100 mm	110 mm	M 12 x 61	70 mm	10 mm	50 mm	30 mm	•	10
62501431	FAZ II 12/30	12 mm	120 mm	130 mm	M 12 x 81	70 mm	30 mm	50 mm	50 mm	•	10
62501432	FAZ II 16/25	16 mm	135 mm	148 mm	M 16 x 84	85 mm	25 mm	65 mm	45 mm	•	10
62503187	FAZ II 16/50	16 mm	160 mm	173 mm	M 16 x 109	85 mm	50 mm	65 mm	70 mm	•	10

FAZ II HBS bolt anchor (with washer according to timber building standard DIN 1052)

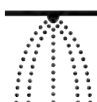


galvanized

DG 2014

Item no.	Type	Drill Ø	Min. bore-hole depth for push-through installation	Dowel length	Thread Ø x length mm	Standard anchoring depth with corresponding working length (working length = clamping range)	Reduced anchoring depth with corresponding working length (working length = clamping range)	U washer (external diameter x thickness) mm	Price per 100 pieces	Pack- age contents
			h_2			$h_{ef, stand.}$	t_{fix}	$h_{ef, red.}$	t_{fix}	
6264212100	FAZ II 12/100 HBS	12 mm	190 mm	205 mm	M 12 x 151	70 mm	100 mm	50 mm	120 mm	58 x 6.0
6264212120	FAZ II 12/120 HBS	12 mm	210 mm	225 mm	M 12 x 171	70 mm	120 mm	50 mm	140 mm	58 x 6.0
6264216160	FAZ II 16/160 HBS	16 mm	270 mm	278 mm	M 16 x 189	85 mm	160 mm	65 mm	180 mm	68 x 6.0
6264216200	FAZ II 16/200 HBS	16 mm	310 mm	328 mm	M 16 x 189	85 mm	200 mm	65 mm	220 mm	68 x 6.0

Fischer FAZ II GS with a large U washer



galvanized

DG 2014

Item no.	Type	Drill Ø	Min. bore-hole depth for push-through installation	Dowel length	Thread Ø x length mm	Standard anchoring depth with corresponding working length (working length = clamping range)	Reduced anchoring depth with corresponding working length (working length = clamping range)	U washer (external diameter x thickness) mm	Price per 100 pieces	Pack- age contents
			h_2			$h_{ef, stand.}$	t_{fix}	$h_{ef, red.}$	t_{fix}	
62641810	FAZ II 8/10 GS	8 mm	65 mm	75 mm	M 8 x 38	45 mm	10 mm	-	-	22 x 2.5
62641830	FAZ II 8/30 GS	8 mm	85 mm	95 mm	M 8 x 58	45 mm	30 mm	-	-	22 x 2.5
626411010	FAZ II 10/10 GS	10 mm	85 mm	95 mm	M 10 x 53	60 mm	10 mm	40 mm	30 mm	25 x 3.0
626411030	FAZ II 10/30 GS	10 mm	105 mm	115 mm	M 10 x 73	60 mm	30 mm	40 mm	50 mm	26 x 3.0
626411210	FAZ II 12/10 GS	12 mm	100 mm	110 mm	M 12 x 61	70 mm	10 mm	50 mm	30 mm	30 x 3.0
626411220	FAZ II 12/20 GS	12 mm	110 mm	120 mm	M 12 x 71	70 mm	20 mm	50 mm	40 mm	30 x 3.0
626411230	FAZ II 12/30 GS	12 mm	120 mm	130 mm	M 12 x 81	70 mm	30 mm	50 mm	50 mm	30 x 3.0
626411250	FAZ II 12/50 GS	12 mm	140 mm	150 mm	M 12 x 101	70 mm	50 mm	50 mm	70 mm	30 x 3.0
6264112100	FAZ II 12/100 GS	12 mm	190 mm	200 mm	M 12 x 151	70 mm	100 mm	50 mm	120 mm	30 x 3.0
6264112120	FAZ II 12/120 GS	12 mm	210 mm	220 mm	M 12 x 171	70 mm	120 mm	50 mm	140 mm	30 x 3.0
6264116160	FAZ II 16/160 GS	16 mm	270 mm	283 mm	M 16 x 189	85 mm	160 mm	65 mm	180 mm	56 x 5.0
6264116200	FAZ II 16/200 GS	16 mm	310 mm	323 mm	M 16 x 189	85 mm	200 mm	65 mm	220 mm	56 x 5.0

Continuation of Fischer FAZ II GS anchor bolts with large U washer

Stainless steel A4

DG 2017

Item no.	Type	Drill Ø	Min. bore-hole depth for push-through installation	Dowel length	Thread Ø x length mm	Standard anchoring depth with corresponding working length (working length = clamping range)		Reduced anchoring depth with corresponding working length (working length = clamping range)		U washer (external diameter x thickness) mm	Price per 100 pieces	Pack-age contents
			h_2			$h_{ef, stand.}$	t_{fix}	$h_{ef, red.}$	t_{fix}			
62644810	FAZ II 8/10 GS	8 mm	65 mm	75 mm	M 8 x 38	45 mm	10 mm	-	-	22 x 2.5	•	50
62644830	FAZ II 8/30 GS	8 mm	85 mm	95 mm	M 8 x 58	45 mm	30 mm	-	-	22 x 2.5	•	50
6264410101	FAZ II 10/10 GS	10 mm	85 mm	95 mm	M 10 x 53	60 mm	10 mm	40 mm	30 mm	25 x 3.0	•	50
626441030	FAZ II 10/30 GS	10 mm	105 mm	115 mm	M 10 x 73	60 mm	30 mm	40 mm	50 mm	26 x 3.0	•	50
626441210	FAZ II 12/10 GS	12 mm	100 mm	110 mm	M 12 x 61	70 mm	10 mm	50 mm	30 mm	30 x 3.0	•	20
626441230	FAZ II 12/30 GS	12 mm	120 mm	130 mm	M 12 x 81	70 mm	30 mm	50 mm	50 mm	30 x 3.0	•	20
6264412160	FAZ II 12/160 GS	12 mm	250 mm	260 mm	M 12 x 186	70 mm	120 mm	50 mm	140 mm	30 x 3.0	•	20
6264416160	FAZ II 16/160 GS	16 mm	270 mm	283 mm	M 16 x 189	85 mm	160 mm	65 mm	180 mm	56 x 5.0	•	4

Fischer FAZ II K anchor bolt (short version)

fischer innovative solutions

galvanized

DG 2014

Item no.	Type	Drill Ø	Min. bore-hole depth for push-through installation	Dowel length	Thread Ø x length mm	Reduced anchoring depth with corresponding working length (working length = clamping range)		U washer (external diameter x thickness)	Price per 100 pieces	Pack-age contents
			h_2			$h_{ef, red.}$	t_{fix}			
6264031010	FAZ II 10/10 K	10 mm	65 mm	75 mm	M 10 x 33	40 mm	10 mm	19 x 1.8 mm	•	50
6264031020	FAZ II 10/20 K	10 mm	75 mm	85 mm	M 10 x 43	40 mm	20 mm	19 x 1.8 mm	•	25
6264031210	FAZ II 12/10 K	12 mm	80 mm	90 mm	M 12 x 41	50 mm	10 mm	23 x 2.3 mm	•	20
6264031220	FAZ II 12/20 K	12 mm	90 mm	100 mm	M 12 x 51	50 mm	20 mm	24 x 2.3 mm	•	20

Stainless steel A4

DG 2017

Item no.	Type	Drill Ø	Min. bore-hole depth for push-through installation	Dowel length	Thread Ø x length mm	Reduced anchoring depth with corresponding working length (working length = clamping range)		U washer (external diameter x thickness)	Price per 100 pieces	Pack-age contents
			h_2			$h_{ef, red.}$	t_{fix}			
6264041010	FAZ II 10/10 K	10 mm	65 mm	75 mm	M 10 x 33	40 mm	10 mm	19 x 1.8 mm	•	50
6264041020	FAZ II 10/20 K	10 mm	75 mm	85 mm	M 10 x 43	40 mm	20 mm	19 x 1.8 mm	•	50
6264041210	FAZ II 12/10 K	12 mm	80 mm	90 mm	M 12 x 41	50 mm	10 mm	23 x 2.3 mm	•	20
6264041220	FAZ II 12/20 K	12 mm	90 mm	100 mm	M 12 x 51	50 mm	20 mm	24 x 2.3 mm	•	20

Fischer FAZ II K anchor bolt (short version with large U washer)



zinc-plated, large washer

DG 2014

Item no.	Type	Drill Ø	Min. bore-hole depth for push-through installation	Dowel length	Thread Ø x length mm	Reduced anchoring depth with corresponding working length (working length = clamping range)		U washer (external diameter x thickness)	Price per 100 pieces	Pack- age con- tents
			h_2			$h_{ef, red.}$	t_{fix}			
6264051010	FAZ II 10/10 GS	10 mm	65 mm	75 mm	M 10 x 33	40 mm	10 mm	25 x 3.0 mm	•	50
6264051210	FAZ II 12/10 GS	12 mm	80 mm	90 mm	M 12 x 41	50 mm	10 mm	30 x 3.0 mm	•	20

① Loads for Fischer FAZ II galv. zinc-plated / stainless steel A4 / highly corrosion-resistant steel C

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25 ³⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{zu}^{2)}$ [kN]	Tensile load $c^{5)}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
FAZ II 8	45	<div>80100</div>	20	2.4	6.9	40	<div>170150</div>	140	35	40
FAZ II 10	40	80	45	4.3	8.7	60	220	120	40	45
	60	100			11.4	60	250	180		60
		120				45	225	45		
FAZ II 12	50	100	60	6.1	13.9	75	315	150	50	55
	70	<div>120140</div>		7.6	16.9	75	<div>335310</div>	210		60
		55								
FAZ II 16	65	140170	110	9.0	20.7	100	380	195	65	65
	85			13.4	31.4	130	585	260	80	
							65			
FAZ II 20	100	<div>160200</div>	200	17.1	40.0	150	<div>680600</div>	300	<div>12595</div>	<div>12585</div>
		FAZ II 24					125		<div>200250</div>	270

The entire ETA - 05/0069 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths up to C50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

5) A split reinforcement is assumed that limits the crack width, taking account of the splitting forces, to $W_k \sim 0.3$ mm.

MKT bolt anchors BZ plus

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete, approval no. ETA-99/0010 M 8 to M 24 for galvanically zinc-plated steel.

Application: The MKT BZ-Plus bolt anchors are used to fasten medium-weight to heavy objects in concrete. Main areas of application include metal structures, wooden construction, substructures of wall paneling, machines and devices and much more.

Properties: The MKT BZ-Plus bolt anchors can be installed in push-through procedure. The small bore diameter ensures time-saving installation.

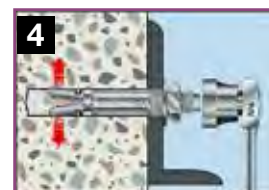
Installation instructions: Installation only permitted with torque wrench.

Advantages:

- 3-part expansion clip for optimal contact pressure against the borehole wall
- small bore diameter
- time-saving, economical installation
- are permitted for higher tensile and transverse loads as well as for small axial and edge spacing in comparison with various competitors



galvanized										DG 2014
Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range, max.	Bore- hole depth	Setting depth	Price per 100 pieces	Pack- age con- tents	
62117810	BZ 8/10/75	M 8	8 mm	75 mm	10 mm	60 mm	52 mm	•	100	
62117815	BZ 8/15/80	M 8	8 mm	80 mm	15 mm	60 mm	52 mm	•	100	
62117830	BZ 8/30/95	M 8	8 mm	95 mm	30 mm	60 mm	52 mm	•	100	
621171010	BZ 10/10/90	M 10	10 mm	90 mm	10 mm	75 mm	68 mm	•	50	
621171015	BZ 10/15/95	M 10	10 mm	95 mm	15 mm	75 mm	68 mm	•	50	
621171020	BZ 10/20/100	M 10	10 mm	100 mm	20 mm	75 mm	68 mm	•	50	
621171030	BZ 10/30/110	M 10	10 mm	110 mm	30 mm	75 mm	68 mm	•	50	
621171050	BZ 10/50/130	M 10	10 mm	130 mm	50 mm	75 mm	68 mm	•	50	
62117701215	BZ 70 M12-15/110	M 12	12 mm	110 mm	15 mm	90 mm	80 mm	•	25	
62117701220	BZ 70 M12-20/115	M 12	12 mm	115 mm	20 mm	90 mm	80 mm	•	25	
62117701230	BZ 70 M12-30/125	M 12	12 mm	125 mm	30 mm	90 mm	80 mm	•	25	
62117701250	BZ 70 M12-50/145	M 12	12 mm	145 mm	50 mm	90 mm	80 mm	•	25	
62117701265	BZ 70 M12-65/160	M 12	12 mm	160 mm	65 mm	90 mm	80 mm	•	25	
62117701285	BZ 70 M12-85/180	M 12	12 mm	180 mm	85 mm	90 mm	80 mm	•	25	
621177012105	BZ 70 M12-105/200	M 12	12 mm	200 mm	105 mm	90 mm	80 mm	•	25	
621177012125	BZ 70 M12-125/220	M 12	12 mm	220 mm	125 mm	90 mm	80 mm	•	25	
621177012145	BZ 70 M12-145/240	M 12	12 mm	240 mm	145 mm	90 mm	80 mm	•	20	
621177012160	BZ 70 M12-160/255	M 12	12 mm	255 mm	160 mm	90 mm	80 mm	•	20	
621171615	BZ 16/15/135	M 16	16 mm	135 mm	15 mm	110 mm	97 mm	•	20	
621171625	BZ 16/25/145	M 16	16 mm	145 mm	25 mm	110 mm	97 mm	•	20	
621171650	BZ 16/50/170	M 16	16 mm	170 mm	50 mm	110 mm	97 mm	•	20	
6211716100	BZ 16/100/220	M 16	16 mm	220 mm	100 mm	110 mm	97 mm	•	10	
6211716140	BZ 16/140/260	M 16	16 mm	260 mm	140 mm	110 mm	97 mm	•	10	
6211716180	BZ 16/180/300	M 16	16 mm	300 mm	180 mm	110 mm	97 mm	•	10	
621172030	BZ 20/30/165	M 20	20 mm	165 mm	30 mm	125 mm	114 mm	•	10	
621172060	BZ 20/60/195	M 20	20 mm	195 mm	60 mm	125 mm	114 mm	•	10	
621172430	BZ 24/30/190	M 24	24 mm	190 mm	30 mm	145 mm	133 mm	•	10	



Continued on the next page

Continuation of MKT bolt anchors BZ plus

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete, M 8 to M 20 approval no. ETA-99/0010 for stainless steel A4 and HCR 1.4529.

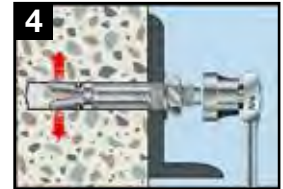
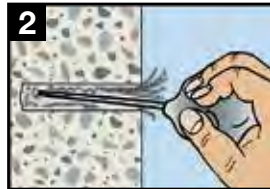
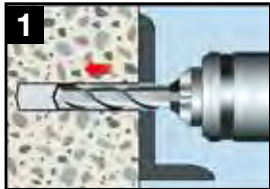
Application: The MKT BZ-Plus bolt anchors are used to fasten medium-weight to heavy objects in concrete. Main application areas include metal structures of all kinds and facade substructures.



Stainless steel A4

DG 2017

Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range, max.	Bore- hole depth	Setting depth	Price per 100 pieces	Pack- age con- tents
62116810	BZ 8/10/75 A4	M 8	8 mm	75 mm	10 mm	60 mm	52 mm	•	100
62116815	BZ 8/15/80 A4	M 8	8 mm	80 mm	15 mm	60 mm	52 mm	•	100
62116830	BZ 8/30/95 A4	M 8	8 mm	95 mm	30 mm	60 mm	52 mm	•	100
621161010	BZ 10/10/90 A4	M 10	10 mm	90 mm	10 mm	75 mm	68 mm	•	50
621161015	BZ 10/15/95 A4	M 10	10 mm	95 mm	15 mm	75 mm	68 mm	•	50
621161030	BZ 10/30/110 A4	M 10	10 mm	110 mm	30 mm	75 mm	68 mm	•	50
621161050	BZ 10/50/130 A4	M 10	10 mm	130 mm	50 mm	75 mm	68 mm	•	50
62116701215	BZ 70 M12-15/110 A4	M 12	12 mm	110 mm	15 mm	90 mm	80 mm	•	25
62116701220	BZ 70 M12-20/115 A4	M 12	12 mm	115 mm	15 mm	90 mm	80 mm	•	25
62116701230	BZ 70 M12-30/125 A4	M 12	12 mm	125 mm	30 mm	90 mm	80 mm	•	25
62116701250	BZ 70 M12-50/145 A4	M 12	12 mm	145 mm	50 mm	90 mm	80 mm	•	25
621161625	BZ 16/25/145 A4	M 16	16 mm	145 mm	25 mm	110 mm	97 mm	•	20
621161650	BZ 16/50/170 A4	M 16	16 mm	170 mm	50 mm	110 mm	97 mm	•	20
621162030	BZ 20/30/165 A4	M 20	20 mm	165 mm	30 mm	125 mm	114 mm	•	10
621162060	BZ 20/60/195 A4	M 20	20 mm	195 mm	60 mm	125 mm	114 mm	•	10



① Loads for MKT BZ-plus bolt anchors, galvanically zinc-plated / stainless steel A4

Permissible loads¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25³⁾ (~B25) with standard component thickness

minimum spacing while the load is simultaneously reduced

Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{br} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{zu}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
BZplus M8	gzp	46	100	20	2.4	8.6	69	195	138	40	40
	A4			25		7.4		165			
BZplus M10	gzp	60	120	35	4.3	12.6	90	250	180	45	45
	A4			50		11.4		225			
BZplus 70 M12	gzp	70	140	45	7.6	17.1	105	315	210	60	60
	A4			50				315			
BZplus M16	gzp	85	170	90	11.9	26.9	127.5	440	255	60	60
	A4			110				455			
BZplus M20	gzp	100	200	160	17.1	34.3	150	505	300	95	95
	A4			200				505			
BZplus M24	gzp	115	230	200	21.1	42.3	172.5	570	345	100	100
	A4			290				615			

The entire ETA - 99/0010 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths up to C 50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

Continued on the next page

i Loads for MKT BZ-plus bolt anchors, galvanically zinc-plated / stainless steel A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25 ³⁾ (~B25) with reduced component thickness (minimum component thickness)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	min. component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
BZplus M8	gzp A4	46	80	20	2.4	8.6	69	220	138	40	40
						7.4		185			
BZplus M10	gzp A4	60	100	25	4.3	12.6	90	280	180	45	50
				35		11.4		250			
BZplus 70 M12	gzp A4	70	120	45	7.6	17.1	105	340	210	60	60
				50							
BZplus M16	gzp A4	85	140	90	11.9	26.9	127.5	490	255	70	80
				110							

The entire ETA - 99/0010 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths up to C 50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

MKT bolt anchors B

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete, approval no. ETA-01/0013 M 6 to M 20.

Application: The MKT B bolt anchors are used to fasten medium-weight to heavy objects in concrete. Main areas of application include metal structures, wooden construction, substructures of wall paneling, machines, devices and much more.

Properties: The MKT B bolt anchors can be installed in push-through procedure. The small bore diameter ensures time-saving installation. The long cut thread makes additional application possibilities possible, such as stand-off installation or longer clamping ranges.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- small bore diameter
- time-saving, economical installation
- various anchoring depths and therefore also applications at very low component thicknesses are possible



Type B with threaded bolt and nut

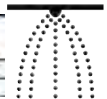
galvanized											DG 2027	
Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range depending on setting depth*	Setting depth*	Borehole depth*	Price per 100 pieces	Pack- age con- tents			
620616540	B 6-5-40	M 6	6 mm	40 mm	5 mm	27 mm	35 mm	•	100			
62061610	B 6-10-20/67	M 6	6 mm	67 mm	10 - 20 mm	49 - 39 mm	55 - 45 mm	•	100			
62061805	B 8/5/50	M 8	8 mm	50 mm	5 mm	35 mm	45 mm	•	100			
62061810	B 8-10-19/75	M 8	8 mm	75 mm	10 - 19 mm	56 - 47 mm	65 - 55 mm	•	100			
62061815	B 8-15-24/80	M 8	8 mm	80 mm	15 - 24 mm	56 - 47 mm	65 - 55 mm	•	100			
62061830	B 8-30-39/95	M 8	8 mm	95 mm	30 - 39 mm	56 - 47 mm	65 - 55 mm	•	100			
62061845	B 8-45-54/110	M 8	8 mm	110 mm	45 - 54 mm	56 - 47 mm	65 - 55 mm	•	100			
62061855	B 8-55-64/120	M 8	8 mm	120 mm	55 - 64 mm	56 - 47 mm	65 - 55 mm	•	100			
62061101060	B 10/10/60	M 10	10 mm	60 mm	10 mm	40 mm	50 mm	•	50			
620611010	B 10-10-16/85	M 10	10 mm	85 mm	10 - 16 mm	62 - 56 mm	70 - 65 mm	•	50			
620611015	B 10-15-21/90	M 10	10 mm	90 mm	15 - 21 mm	62 - 56 mm	70 - 65 mm	•	50			
620611020	B 10-20-26/95	M 10	10 mm	95 mm	20 - 26 mm	62 - 56 mm	70 - 65 mm	•	50			
620611045	B 10-45-51/120	M 10	10 mm	120 mm	45 - 51 mm	62 - 56 mm	70 - 65 mm	•	50			
620611070	B 10-70-76/145	M 10	10 mm	145 mm	70 - 76 mm	62 - 56 mm	70 - 65 mm	•	50			
620611205	B 12/5/75	M 12	12 mm	75 mm	5 mm	55 mm	55 mm	•	25			

Continued on the next page

Continuation of MKT B bolt anchor

Type B with threaded bolt and nut

galvanized									DG 2027
Item no.	Type	Thread	Drill Ø	Overall length	Clamping range depending on setting depth*	Setting depth*	Borehole depth*	Price per 100 pieces	Package contents
620611215	B 12-15-30/110	M 12	12 mm	110 mm	15 - 30 mm	82 - 67 mm	90 - 75 mm	•	25
620611220	B 12-20-35/115	M 12	12 mm	115 mm	20 - 35 mm	82 - 67 mm	90 - 75 mm	•	25
620611230	B 12-30-45/125	M 12	12 mm	125 mm	30 - 45 mm	82 - 67 mm	90 - 75 mm	•	25
620611250	B 12-50-65/145	M 12	12 mm	145 mm	50 - 65 mm	82 - 67 mm	90 - 75 mm	•	25
620611285	B 12-85-100/180	M 12	12 mm	180 mm	85 - 100 mm	82 - 67 mm	90 - 75 mm	•	25
6206112105	B 12-105-120/200	M 12	12 mm	200 mm	105 - 120 mm	82 - 67 mm	90 - 75 mm	•	25
6206112125	B 12-125-140/220	M 12	12 mm	220 mm	125 - 140 mm	82 - 67 mm	90 - 75 mm	•	25
6206112145	B 12-145-160/240	M 12	12 mm	240 mm	145 - 160 mm	82 - 67 mm	90 - 75 mm	•	20
6206112160	B 12-160-175/255	M 12	12 mm	255 mm	160 - 175 mm	82 - 67 mm	90 - 75 mm	•	20
620611615	B 16-13/115	M 16	16 mm	115 mm	15 mm	84 mm	95 mm	•	20
620611630	B 16-30-48/150	M 16	16 mm	150 mm	30 - 48 mm	102 - 84 mm	110 - 95 mm	•	20
620611660	B 16-60-78/180	M 16	16 mm	180 mm	60 - 78 mm	102 - 84 mm	110 - 95 mm	•	20
6206116100	B 16-100-118/220	M 16	16 mm	220 mm	100 - 118 mm	102 - 84 mm	110 - 95 mm	•	10
6206116130	B 16-130-148/250	M 16	16 mm	250 mm	130 - 148 mm	102 - 84 mm	110 - 95 mm	•	10
6206116165	B 16-165-183/285	M 16	16 mm	285 mm	165 - 183 mm	102 - 84 mm	110 - 95 mm	•	10
620612035	B 20-35-57/180	M 20	20 mm	180 mm	35 - 57 mm	121 - 99 mm	130 - 110 mm	•	10
620612060	B 20-60-82/205	M 20	20 mm	205 mm	60 - 82 mm	121 - 99 mm	130 - 110 mm	•	10



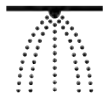
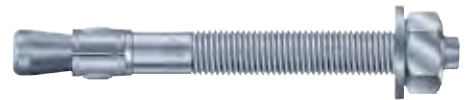
Type B with threaded bolt and nut

hot-dip galvanized									DG 2027
Item no.	Type	Thread	Drill Ø	Overall length	Clamping range depending on setting depth*	Setting depth*	Borehole depth*	Price per 100 pieces	Package contents
620651015	B 10-15-21/90	M 10	10 mm	90 mm	15 - 21 mm	62 - 56 mm	70 - 65 mm	•	50
620651045	B 10-45-51/120	M 10	10 mm	120 mm	45 - 51 mm	62 - 56 mm	70 - 65 mm	•	50
620651215	B 12-15-30/110	M 12	12 mm	110 mm	15 - 30 mm	82 - 67 mm	90 - 75 mm	•	25
620651230	B 12-30-45/125	M 12	12 mm	125 mm	30 - 45 mm	82 - 67 mm	90 - 75 mm	•	25
620651630	B 16-30-48/150	M 16	16 mm	150 mm	30 - 48 mm	102 - 84 mm	110 - 95 mm	•	20

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 20, approval no. ETA-05/0018 stainless steel A4. European Technical Approval for multi-fastener M 6, approval no. ETA-06/0155, stainless steel A4 and HCR 1.4529.

Application:

The MKT B bolt anchors are used to fasten medium-weight to heavy objects in concrete. Main application areas include metal structures and facade substructures.



Stainless steel A4

Stainless steel A4									DG 2027
Item no.	Type	Thread	Drill Ø	Overall length	Clamping range depending on setting depth*	Setting depth*	Borehole depth*	Price per 100 pieces	Package contents
62064610	B 6-10-20/67	M 6	6 mm	67 mm	10 - 20 mm	49 - 39 mm	55 - 45 mm	•	100
62064810	B 8-10-19/75	M 8	8 mm	75 mm	10 - 19 mm	56 - 47 mm	65 - 55 mm	•	100
62064815	B 8-15-24/80	M 8	8 mm	80 mm	15 - 24 mm	56 - 47 mm	65 - 55 mm	•	100
62064830	B 8-30-39/95	M 8	8 mm	95 mm	30 - 39 mm	56 - 47 mm	65 - 55 mm	•	100

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Continuation of MKT B bolt anchor

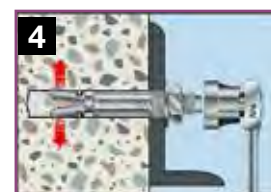
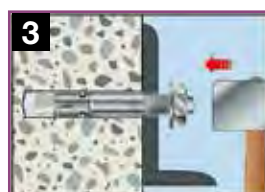
Type B with threaded bolt and nut

Stainless
steel A4

DG 2027

Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range depending on setting depth*	Setting depth*	Borehole depth*	Price per 100 pieces	Pack- age con- tents
62064855	B 8-55-64/120	M 8	8 mm	120 mm	55 - 64 mm	56 - 47 mm	65 - 55 mm	•	100
620641010	B 10-10-16/85	M 10	10 mm	85 mm	10 - 16 mm	62 - 56 mm	70 - 65 mm	•	50
620641015	B 10-15-21/90	M 10	10 mm	90 mm	15 - 21 mm	62 - 56 mm	70 - 65 mm	•	50
620641020	B 10-20-26/95	M 10	10 mm	95 mm	20 - 26 mm	62 - 56 mm	70 - 65 mm	•	50
620641045	B 10-45-51/120	M 10	10 mm	120 mm	45 - 51 mm	62 - 56 mm	70 - 65 mm	•	50
620641215	B 12-15-30/110	M 12	12 mm	110 mm	15 - 30 mm	81 - 66 mm	90 - 75 mm	•	25
620641230	B 12-30-45/125	M 12	12 mm	125 mm	30 - 45 mm	81 - 66 mm	90 - 75 mm	•	25
620641250	B 12-50-65/145	M 12	12 mm	145 mm	50 - 65 mm	81 - 66 mm	90 - 75 mm	•	25
620641630	B 16-30-46/150	M 16	16 mm	150 mm	30 - 48 mm	102 - 84 mm	110 - 95 mm	•	20
620641660	B 16-60-78/180	M 16	16 mm	180 mm	60 - 76 mm	99 - 83 mm	110 - 95 mm	•	20
620642035	B 20-35-57/180	M 20	20 mm	180 mm	35 - 57 mm	121 - 99 mm	130 - 110 mm	•	10

*) Different clamping ranges can be selected depending on the anchoring depths. Please not the reduced loads at a reduced setting depth.



❗ Loads for MKT bolt anchor B galv. zinc-plated

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	N_{perm} ²⁾ [kN]	V_{perm} ²⁾ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
B M6	40	100	8	4.1	2.9	50	50	120	35	40
B M8	44	100	15	5.7	6.3	85	95	132	40	45
B M10	48	100	30	7.6	8.0	115	120	144	55	65
B M12	65	130	50	12.6	14.3	165	185	195	75	90
B M16	82	170	100	17.8	23.6	205	260	246	90	105
B M20	100	200	200	24.0	37.1	250	375	300	105	125

The entire ETA - 01/0013 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval.

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① Loads for MKT bolt anchor B steel, hot-dip galvanized

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
B M10	48	100	30	7.6	8.0	115	120	144	55	65
B M12	65	130	40	12.6	14.3	165	185	195	75	90
B M16	82	170	90	17.8	23.6	205	260	246	90	105

The entire ETA - 01/0013 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval.

① Loads for MKT bolt anchor B stainless steel A4

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25) for standard anchoring depths									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
B M6	40	100	6	3.6	4.0	80	65	120	35	35
B M8	44	100	15	5.7	6.9	110	105	132	35	45
B M10	48	100	25	7.6	8.0	120	120	144	45	55
B M12	65	130	50	11.9	15.4	170	200	195	60	70
B M16	80	160	100	17.2	28.6	205	335	240	80	80
B M20	100	200	160	24.0	43.9	280	450	300	100	100

The entire ETA - 01/0013 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

MKT bolt anchor BU

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M12 and M16, approval no. ETA-01/0013 for galvanically zinc-plated steel.

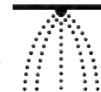
Application: The MKT BU bolt anchors with a large washer according to DIN 440 are primarily used in wooden construction for fastening purlins and for general wooden structures.

Properties: The MKT BU bolt anchors can be installed in the push-through procedure. The small bore diameter ensures time-saving installation. The long cut thread also permits longer clamping ranges at lower anchoring depths. Washers Ø at M 12 44 mm, washers Ø at M 16 56 mm.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- the large washers distribute the preload force to a larger surface and therefore reduce pressing into mounting parts made of wood
- small borehole diameter
- time-saving, economical installation
- various anchoring depths and therefore also applications at very low component thicknesses are possible



Type BU with large washer DIN 440

galvanized										DG 2027
Item no.	Type	Thread	Drill Ø	Overall length	Clamping range depending on setting depth*	Setting depth*	Borehole depth*	Price per 100 pieces	Pack- age contents	
620661285	BU 12/85/180	M 12	12 mm	180 mm	85 - 100 mm	82 - 67 mm	90 - 75 mm	•	25	
6206612105	BU 12/105/200	M 12	12 mm	200 mm	105 - 120 mm	82 - 67 mm	90 - 75 mm	•	25	
6206612125	BU 12/125/220	M 12	12 mm	220 mm	125 - 140 mm	82 - 67 mm	90 - 75 mm	•	25	
6206612145	BU 12/145/240	M 12	12 mm	240 mm	145 - 160 mm	82 - 67 mm	90 - 75 mm	•	20	
6206612160	BU 12/160/255	M 12	12 mm	255 mm	160 - 175 mm	82 - 67 mm	90 - 75 mm	•	20	
6206612190	BU 12/190/285	M 12	12 mm	285 mm	190 - 205 mm	82 - 67 mm	90 - 75 mm	•	20	
6206612230	BU 12/230/325	M 12	12 mm	325 mm	230 - 245 mm	82 - 67 mm	90 - 75 mm	•	20	
6206616165	BU 16/165/285	M 16	16 mm	285 mm	165 - 183 mm	102 - 84 mm	110 - 95 mm	•	10	
6206616200	BU 16/200/320	M 16	16 mm	320 mm	200 - 218 mm	102 - 84 mm	110 - 95 mm	•	0	

*) Different clamping ranges can be selected depending on the anchoring depths. Please not the reduced loads at a reduced setting depth.

① Loads for MKT bolt anchor BU galv. zinc-plated

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
B M12	65	130	50	12.6	14.3	165	185	195	75	90
B M16	82	170	100	17.8	23.6	205	260	246	90	105

The entire ETA - 01/0013 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

Fischer express anchor EXA

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete, M8 to M20 approval no. ETA-05/0185 for galvanically zinc-plated steel.

Application: The Fischer EXA express anchors are used to fasten medium-weight to heavy objects in concrete. Main areas of application include metal structures, wooden construction, substructures of wall paneling, machines, devices and much more.

Properties: The Fischer EXA express anchors can be installed in a push-through procedure. The small bore diameter ensures time-saving installation.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- small bore diameter
- time-saving, economical installation

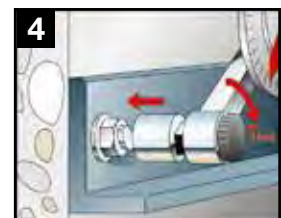
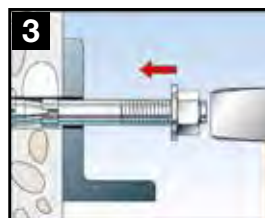


galvanized

DG 2024

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Drilled hole depth through the component to be connected	Price per 100 pieces	Package contents
62060610	6/10/70*	M 6	6 mm	70 mm	10 mm	70 mm	•	100
62060640	6/40/100*	M 6	6 mm	100 mm	40 mm	100 mm	•	100
62060805	8/5/60*	M 8	8 mm	60 mm	5 mm	60 mm	•	50
62060815	8/15/82	M 8	8 mm	85 mm	15 mm	80 mm	•	50
62060828	8/28/95	M 8	8 mm	98 mm	28 mm	95 mm	•	50
62060855	8/55/122	M 8	8 mm	125 mm	55 mm	120 mm	•	50
620608100	8/100/167	M 8	8 mm	170 mm	100 mm	165 mm	•	50
620601005	10/5/70*	M 10	10 mm	70 mm	5 mm	65 mm	•	50
620601015	10/15/90	M 10	10 mm	92 mm	15 mm	85 mm	•	50
620601045	10/45/120	M 10	10 mm	122 mm	45 mm	115 mm	•	50
620601090	10/90/165	M 10	10 mm	167 mm	90 mm	160 mm	•	50
6206010140	10/140/215	M 10	10 mm	217 mm	140 mm	210 mm	•	25
620601205	12/5/80*	M 12	12 mm	80 mm	5 mm	75 mm	•	25
620601215	12/15/113	M 12	12 mm	116 mm	15 mm	105 mm	•	25
620601235	12/35/133	M 12	12 mm	136 mm	35 mm	125 mm	•	25
620601255	12/55/153	M 12	12 mm	156 mm	55 mm	145 mm	•	25
620601285	12/85/183	M 12	12 mm	186 mm	85 mm	175 mm	•	25
6206012105	12/105/203	M 12	12 mm	206 mm	105 mm	195 mm	•	25
620601630	16/30/153	M 16	16 mm	153 mm	30 mm	140 mm	•	10
620601675	16/75/198	M 16	16 mm	198 mm	75 mm	185 mm	•	20

*) These sizes are not included in the approval.



Continued on the next page

① Loads for bolt anchor EXA galv. zinc-plated

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	c [mm]	c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
EXA M8	47	100	14	4.1	6.2	110	90	141	45	40
EXA M10	49	100	30	6.3	8.2	155	125	147	50	65
EXA M12	67	135	60	9.9	11.0	190	135	201	75	90
EXA M16	85	170	80	16.7	27.8	185	310	255	85	90
EXA M20	103	205	140	24.8	40.9	255	410	309	105	100

The entire ETA - 05/0185 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval.
- 4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

① Loads for EXA bolt anchor galv. zinc-plated and EXA-IG internally threaded anchor galv. zinc-plated / stainless steel A4

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete tension zone) of strength C20/25 (~B25)								
Type	Material	effective anchoring depth	minimum component thickness	installation torque	recommended tensile load	recommended transverse load	char. axial spacing	char. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{recom'd}^{2)}$ [kN]	$V_{recom'd}^{2)}$ [kN]	$s_{cr,N}$ [mm]	$c_{cr,N}$ [mm]
EXA M6 K	gzp	24	70	5	1.5	1.6	72	36
EXA M8 K	gzp	28	90	15	2.1	2.8	84	42
EXA M10 K	gzp	30	100	25	3.0	4.0	90	45
EXA - IG M6	gzp	45	100	8	3.4	1.5	135	68
	A4				2.7			
EXA - IG M8	gzp	45	110	15	4.0	2.6	135	68
	A4				2.6			
EXA - IG M10	gzp	45	120	25	7.4	3.9	135	68
	A4				6.6			
EXA - IG M12	gzp	75	150	50	12.3	6.3	225	113
	A4				6.3			

- 1) Necessary safety factor is taken into consideration.
- 2) Detailed dowel dimensioning is required for combinations of tensile and transverse loads.

Fischer Zykon bolt anchor FZA

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 6 to M 16, approval no. ETA-98/0004 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer Zykon FZA bolt anchors are used to fasten heavy objects in concrete. Main application areas include heavy metal structures, cable lines and much more. Ideal anywhere where low setting depths and axial and edge spacing are required.

Properties: Concrete undercut system. The Fischer Zykon bolt anchors FZA are set in a pre-installation procedure. They have almost no expansion pressure and permit very low anchoring depths and axial and edge spacing. Zykon anchors are offered in 3 designs (bolt anchor/pre-installation anchor - through anchor - internally threaded anchor).

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- almost free of expansion pressure, therefore minimum borehole depths, as well as axial and edge spacing
- positive locking anchoring
- economical, single-stage drilling method for drilling the undercut

Note: To create the tapered boreholes and to insert the dowel, it is necessary to use original Fischer FZUB and FZE tools. Neither are included in the price of the Zykon anchor.



Shock approval from
the Federal Office for
Civil Protection, Bonn

galvanized

DG 2031

Item no.	Type	Thread	Drill Ø	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
624601040	FZA 10/40 M 6/10	M 6	10 mm	10 mm	40 mm	•	25
624601240	FZA 12/40 M 8/15	M 8	12 mm	15 mm	40 mm	•	25
624601250	FZA 12/50 M 8/15	M 8	12 mm	15 mm	50 mm	•	20
624601440	FZA 14/40 M 10/25	M 10	14 mm	25 mm	40 mm	•	25
624601880	FZA 18/80 M 12/25	M 12	18 mm	25 mm	80 mm	•	10
6246022100	FZA 22/100 M 16/60	M 16	22 mm	60 mm	100 mm	•	10
6246022125	FZA 22/125 M 16/60	M 16	22 mm	60 mm	125 mm	•	6



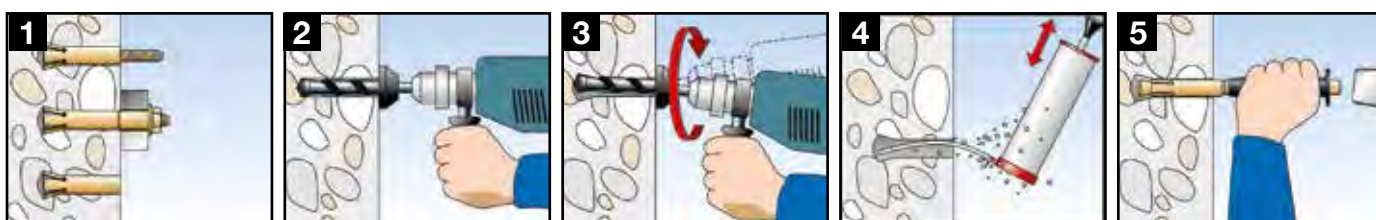
Shock approval from
the Federal Office for
Civil Protection, Bonn



Stainless steel A4

DG 2040

Item no.	Type	Thread	Drill Ø	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
624621040	FZA 10/40 M 6/10A4	M 6	10 mm	10 mm	40 mm	•	25
624621240	FZA 12/40 M 8/15A4	M 8	12 mm	15 mm	40 mm	•	25
624621440	FZA 14/40 M 10/25A4	M 10	14 mm	25 mm	40 mm	•	20
624621460	FZA 14/60 M 10/25A4	M 10	14 mm	25 mm	60 mm	•	10
624621880	FZA 18/80 M 12/25A4	M 12	18 mm	25 mm	80 mm	•	10
6246222100	FZA 22/100 M 16/60A4	M 16	22 mm	60 mm	100 mm	•	10



Continued on the next page

① Loads for ZYKON FZA undercut anchors galv. zinc-plated / stainless A4 / highly corrosion-resistant steel C

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FZA 10 x 40 M6	gzp	40	100	8.5	2.4	4.6	60	95	120	40	35
	A4					3.2		65			
	C					4.0		85			
FZA 12 x 40 M8	gzp	40	100	20	2.4	5.6	60	120	120	40	40
	A4										
	C										
FZA 14 x 40 M10	gzp	40	100	40	2.4	5.6	60	115	120	70	70
	A4										
	C										
FZA 12 x 50 M8	gzp	50	110	20	4.3	7.9	75	160	150	50	45
	A4					5.8		115			
	C					7.3		145			
FZA 14 x 60 M10	gzp	60	130	40	5.7	13.3	90	250	180	60	55
	A4					9.3		165			
	C					11.6		215			
FZA 18 x 80 M12	gzp	80	160	60	9.5	19.3	120	315	240	80	70
	A4					13.5		210			
	C					16.9		270			
FZA 22 x 100 M16	gzp	100	200	100	17.1	34.3	150	500	300	100	100
	A4					25.2		355			
	C					31.4		455			
FZA 22 x 125 M16	gzp	125	250	100	19.0	35.9	190	450	375	125	125
	A4					25.2		300			
	C					31.4		385			

The entire ETA - 98/0004 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths, permissible loads up to 55% higher are possible

Fischer Zykon FZA-D push-through anchor

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 6 to M 16, approval no. ETA-98/0004 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer Zykon FZA-D push-through anchors are used to fasten heavy objects in concrete. Main application areas include heavy metal structures, cable lines and much more. Ideal anywhere where low setting depths and edge spacing are required.

Properties: Concrete undercut system. The Fischer Zykon bolt anchors FZA are set in a pre-installation procedure. They have almost no expansion pressure and permit very low anchoring depths and axial and edge spacing. Zykon anchors are offered in 3 designs (bolt anchor/pre-installation anchor - through anchor - internally threaded anchor).

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- almost free of expansion pressure, therefore very low borehole depths, as well as axial and edgespacing
- positive locking anchoring
- economical, single-stage drilling method for drilling the undercut

Note: To create the tapered boreholes and to insert the dowel, it is necessary to use original Fischer FZUB and FZE tools. Neither are included in the price of the Zykon anchor.



Shock approval from
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galvanized

DG 2031

Item no.	Type	Thread	Drill Ø	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
624701260	FZA 12/60 M 8D10	M 8	12 mm	10 mm	50 mm	•	25
624701480	FZA 14/80 M 10D20	M 10	14 mm	20 mm	60 mm	•	10
6247014100	FZA 14/100 M 10D40	M 10	14 mm	40 mm	60 mm	•	10
6247018100	FZA 18/100 M 12D20	M 12	18 mm	20 mm	80 mm	•	10
6247022125	FZA 22/125 M 16D25	M 16	22 mm	25 mm	100 mm	•	10



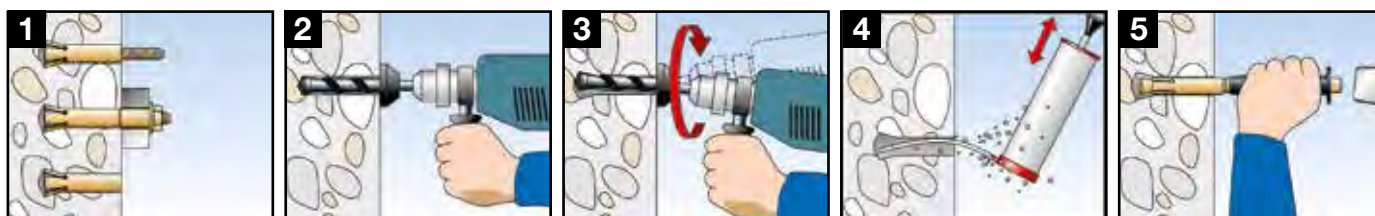
Shock approval from
the Federal Office for
Civil Protection, Bonn



Stainless steel A4

DG 2040

Item no.	Type	Thread	Drill Ø	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
624721260	FZA 12/60 M 8D10 A4	M 8	12 mm	10 mm	50 mm	•	25
624721280	FZA 12/80 M 8D30 A4	M 8	12 mm	30 mm	50 mm	•	25
624721480	FZA 14/80 M 10D20 A4	M 10	14 mm	20 mm	60 mm	•	10
6247218100	FZA 18/100 M 12D20 A4	M 12	18 mm	20 mm	80 mm	•	10
6247222125	FZA 22/125 M 16D25 A4	M 16	22 mm	25 mm	100 mm	•	10



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① Loads for ZYKON undercut anchors FZA-D galv. zinc-plated / stainless steel A4 / highly corrosion-resistant C

Permissible loads ¹⁾³⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FZA 12 x 50 M8 D	gzp	40	100	20	2.4	5.6	60	120	120	40	35
	A4										
	C										
FZA 12 x 60 M8 D	gzp	50	110	20	4.3	7.9	75	160	150	50	45
	A4					5.9		115			
	C					7.3		145			
FZA 12 x 80 M8 D	gzp	50	110	20	4.3	7.9	75	160	150	50	45
	A4					5.9		115			
	C					7.3		145			
FZA 14 x 80 M10 D	gzp	60	130	40	5.7	13.3	90	250	180	60	55
	A4					9.3		165			
	C					11.6		215			
FZA 14 x 100 M10 D	gzp	60	130	40	5.7	13.3	90	250	180	60	55
	A4					9.3		165			
	C					11.6		215			
FZA 18 x 100 M12 D	gzp	80	160	60	9.5	19.3	120	315	240	80	70
	A4					13.5		210			
	C					16.9		270			
FZA 18 x 130 M12 D	gzp	80	160	60	9.5	19.3	120	315	240	80	70
	A4					13.5		210			
	C					16.9		270			
FZA 22 x 125 M16 D	gzp	100	200	100	17.1	34.3	150	500	300	100	100
	A4					25.2		355			
	C					25.2		355			

The entire ETA - 98/0004 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with our dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

Fischer Zykon FZA-I internally threaded anchor

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 6 to M 16, approval no. ETA-98/0004 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer Zykon FZA-I internally threaded anchors are used to fasten heavy objects in concrete. Main application areas include heavy metal structures, cable lines and much more. Ideal anywhere where low setting depths and axial and edge spacing are required.

Properties: Concrete undercut system. The Fischer Zykon bolt anchors FZA are set in a pre-installation procedure. They have almost no expansion pressure and permit very low anchoring depths and axial and edge spacing. Zykon anchors are offered in 3 designs (bolt anchor/pre-installation anchor - through anchor - internally threaded anchor).

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- almost free of expansion pressure, therefore minimum borehole depths, as well as axial and edge spacing
- positive locking anchoring
- economical, single-stage drilling method for drilling the undercut

Note: To create the tapered boreholes and to insert the dowel, it is necessary to use original Fischer FZUB and FZE tools. Neither are included in the price of the Zykon anchor.



Shock approval from
the Federal Office for
Civil Protection, Bonn

galvanized

DG 2031

Item no.	Type	Thread	Drill Ø	Anchoring depth	Screw-in depth min.	Screw-in depth max.	Price per 100 pieces	Package contents
624711460	FZA 14/60 M 8i	M 8	14 mm	60 mm	11 mm	17 mm	•	20
624711880	FZA 18/80 M 10i	M 10	18 mm	80 mm	13 mm	21 mm	•	10
6247122100	FZA 22/100 M 12i	M 12	22 mm	100 mm	15 mm	25 mm	•	10

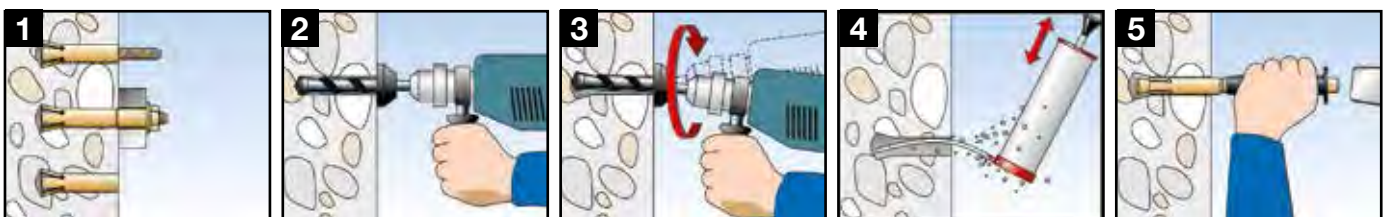


Shock approval from
the Federal Office for
Civil Protection, Bonn

Stainless steel A4

DG 2040

Item no.	Type	Thread	Drill Ø	Anchoring depth	Screw-in depth min.	Screw-in depth max.	Price per 100 pieces	Package contents
624731880	FZA 18/80 M 10i A4	M 10	18 mm	80 mm	13 mm	21 mm	•	10



Continued on the next page

① Loads for ZYKON undercut anchors FZA-I galv. zinc-plated / stainless steel A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FZA 12 x 40 M6 I	gzp A4	40	100	8.5	2.4	4.1 3.2	60	85 65	120	40	35
FZA 12 x 50 M6 I	gzp A4	50	110	8.5	4.3	4.1 3.2	75	75 65	150	50	45
FZA 14 x 60 M8 I	gzp A4	60	130	15	5.7	5.4 4.3	90	90 75	180	60	55
FZA 18 x 80 M10 I	gzp A4	80	160	30	9.5 9.0	5.6 5.4	120	85 85	240	80	70
FZA 22 x100 M12 I	gzp A4	100	200	60	17.1	13.2 12.7	150	165 155	300	100	100
FZA 22 x125 M12 I	gzp A4	125	250	60	19.0	13.2 12.7	190	150 145	375	125	125

The entire ETA - 98/0004 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) For screw strength class 8.8 (gzp) and A4-70 (A4).
- 4) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

Fischer Zykon anchor crampon fastener

Approved by the building authorities: The Zykon FZA anchor crampon fastener is part of the general approval for Fischer Zykon anchor approval no. ETA-98/0004 and is regulated for fastening crampons in concrete and masonry according to DIN 1211-3 and 1212-3.

Application: The Zykon FZA-ST crampon fasteners are used to fasten crampons according to DIN 1211-3 and 1212-3.

Properties: Concrete undercut system. The Fischer Zykon FZA crampon fasteners are set in a pre-installation procedure. They have almost no expansion pressure and permit very low anchoring depths and axial and edge spacing.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- almost free of expansion pressure, therefore minimum borehole depths, as well as axial and edge spacing
- positive locking anchoring
- economical, single-stage drilling method for drilling the undercut

Note: To create the tapered boreholes and to insert the dowel, it is necessary to use original Fischer FZUB and FZE tools. Neither are included in the price of the crampon fastener.



Stainless steel A4

DG 2040

Item no.	Type	Thread	Drill Ø	Clamping range	Minimum anchoring depth	Price per 100 pieces	Package contents
624611440	FZA 14/40 ST A4	M 10	14 mm	30 mm	40 mm	•	20
624611460	FZA 14/60 ST A4	M 10	14 mm	30 mm	60 mm	•	20

Fischer Zykon universal drill bit FZUB

Application: This tool is used to drill and undercut holes for the Fischer FZA Zykon anchor as well as for the Fischer Zykon FZEA knock-in anchors.

Properties: The Zykon FZUB universal drill bit drills and undercuts in one work step without the need to change tools.



Internally threaded anchor



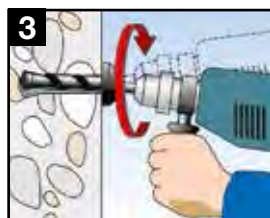
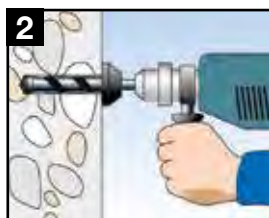
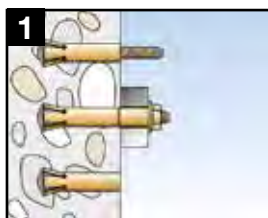
Through anchor



Bolt anchors

DG 2033

Item no.	Type	for all 3 cyclone types with designation	Price per piece	Package contents
624681040	FZUB 10/40	FZA 10/40	•	1
624681240	FZUB 12/40	FZA 12/40	•	1
624681250	FZUB 12/50	FZA 12/50	•	1
624681260	FZUB 12/60	FZA 12/60	•	1
624681280	FZUB 12/80	FZA 12/80	•	1
624681440	FZUB 14/40	FZA 14/40	•	1
624681460	FZUB 14/60	FZA 14/60	•	1
624681480	FZUB 14/80	FZA 14/80	•	1
6246814100	FZUB 14/100	FZA 14/100	•	1
624681880	FZUB 18/80	FZA 18/80	•	1
6246818100	FZUB 18/100	FZA 18/100	•	1
6246818130	FZUB 18/130	FZA 18/130	•	1
6246822100	FZUB 22/100	FZA 22/100	•	1
6246822125	FZUB 22/125	FZA 22/125	•	1



Fischer Zykon knock-in tool FZE plus

Application: The Zykon FZE plus knock-in tool is used to set Fischer Zykon anchors. The centering pin for the internally threaded design is included.



DG 2033

Item no.	Type	for all 3 cyclone types with designation	Price per piece	Package contents
6246510	FZE 10 plus	FZA 10	•	1
6246512	FZE 12 plus	FZA 12	•	1
6246514	FZE 14 plus	FZA 14	•	1
6246518	FZE 18 plus	FZA 18	•	1
6246522	FZE 22 plus	FZA 22	•	1

Fischer Zykon hammerset anchor FZEA II



Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 to M 12, approval no. ETA-06/0271 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer Zykon FZEA II hammerset anchors are used to fasten light to heavy objects in concrete. Main application areas include suspending pipes, ventilation ducts or sprinkler systems in sanitary, heating and ventilation engineering as well as fastening suspended ceilings.

Properties: Low setting depths. Almost free of expansion pressure for minimum axial and edge spacing. Easy, repeated loosening and refastening of fixtures is possible.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- concrete undercut, positive locking anchoring
- economical, single-stage drilling method for drilling the undercut
- optical setting control using an impression on the edge of the dowel

Note: To create the tapered boreholes and to insert the dowel, it is necessary to use original Fischer FZUB and FZED tools. Neither are included in the price of the hammer-set anchor.



galvanized							DG 2031
Item no.	Type	Thread	Hole Ø x dowel length	Screw-in depth min./max.	Price per 100 pieces	Package contents	
626921040	FZEA II 10/40	M 8	10/40 mm	11/17 mm	•	100	
626921240	FZEA II 12/40	M 10	12/40 mm	13/19 mm	•	100	
626921440	FZEA II 14/40	M 12	14/40 mm	15/21 mm	•	50	



Stainless steel A4							DG 2040
Item no.	Type	Thread	Hole Ø x dowel length	Screw-in depth min./max.	Price per 100 pieces	Package contents	
626931040	FZEA II 10/40 A4	M 8	10/40 mm	11/17 mm	•	100	
626931240	FZEA II 12/40 A4	M 10	12/40 mm	13/19 mm	•	100	



Fischer Zykon universal drill bit FZUB

Application: This tool is used to drill and undercut holes for the Fischer FZA Zykon anchor as well as for the Fischer Zykon FZEA knock-in anchors.

Properties: The Zykon FZUB universal drill bit drills and undercuts in one work step without the need to change tools.

fischer
innovative solutions



Internally threaded anchor



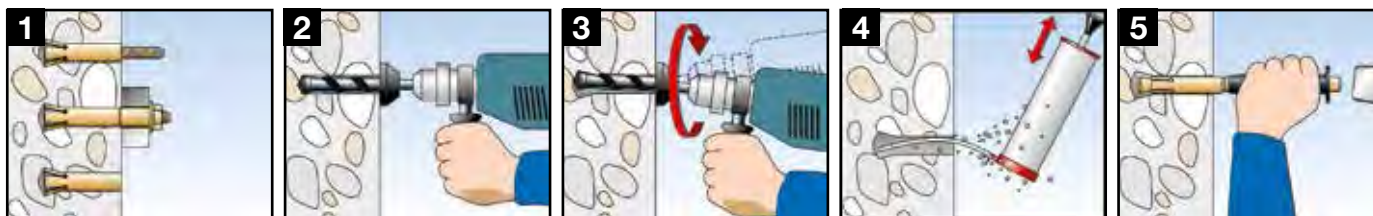
Through anchor



Bolt anchors

DG 2033

Item no.	Type	for all 3 cyclone types with designation	Price per piece	Package contents
624681040	FZUB 10/40	FZA 10/40	•	1
624681240	FZUB 12/40	FZA 12/40	•	1
624681250	FZUB 12/50	FZA 12/50	•	1
624681260	FZUB 12/60	FZA 12/60	•	1
624681280	FZUB 12/80	FZA 12/80	•	1
624681440	FZUB 14/40	FZA 14/40	•	1
624681460	FZUB 14/60	FZA 14/60	•	1
624681480	FZUB 14/80	FZA 14/80	•	1
6246814100	FZUB 14/100	FZA 14/100	•	1
624681880	FZUB 18/80	FZA 18/80	•	1
6246818100	FZUB 18/100	FZA 18/100	•	1
6246818130	FZUB 18/130	FZA 18/130	•	1
6246822100	FZUB 22/100	FZA 22/100	•	1
6246822125	FZUB 22/125	FZA 22/125	•	1



Fischer setting tool FZED plus

Application: The Fischer FZED plus setting tool is used to set Fischer Zykon FZEA II hammer-set anchors.

fischer
innovative solutions



DG 2033

Item no.	Type	for hammer-set anchors	Price per piece	Package contents
624781040	FZED plus 10/40	FZEA 10/40	•	1
624781240	FZED plus 12/40	FZEA 12/40	•	1
624781440	FZED plus 14/40	FZEA 14/40	•	1

Continued on the next page

① Loads for ZYKON FZEA II hammer-set anchor galv. zinc-plated / stainless steel A4 / highly corrosion-resistant steel C

Permissible loads ¹⁾³⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	Installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FZEA II 10 x 40 M8	gzp	40	80	< 10	1.6	4.7	60	115	120	40	40
	A4			< 15		5.6		140		45	45
	C			< 15		5.6		140		50	50
FZEA II 12 x 40 M10	gzp	40	80	< 15	3.0	5.6	60	135	120	40	40
	A4			< 20						45	45
	C			< 20						50	50
FZEA II 14 x 40 M12	gzp	40	80	< 20	3.6	5.6	60	135	120	40	40
	A4			< 40						45	45
	C			< 40						50	50

The entire ETA - 06/0271 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) For screw strength classes 8.8 (gzp), A4-70 (A4) and highly corrosion-resistant steel 1.4529 (C), strength 700 N/mm².
- 4) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

Fischer diamond drill fastener FDBB

Application: The Fischer FDBB are used to temporarily fasten diamond core drills and sawing machines in concrete and natural stone with dense microstructures. The expansion element remains in the borehole after the machine is disassembled, the spindle bolts can be reused with a new expansion element.

Properties: Made of galvanized steel. High load carrying capacity thanks to large steel cross-section on the surface of the concrete. Very robust unit, also tolerates the bolt becoming misaligned and the core drill bit suddenly tilting. Durable spindle bolt thanks to protected internal thread and high-quality steel.

Advantage:

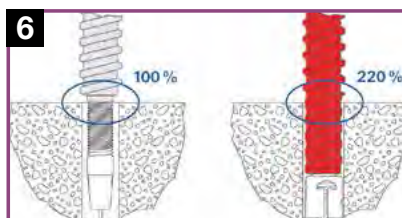
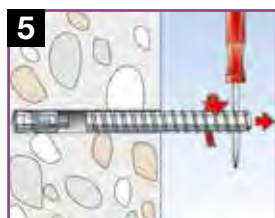
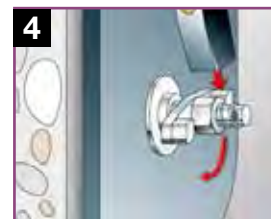
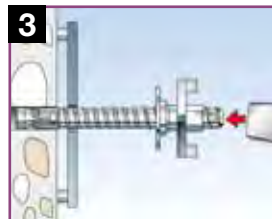
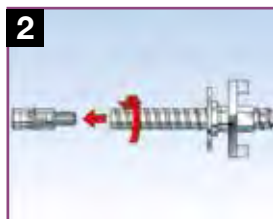
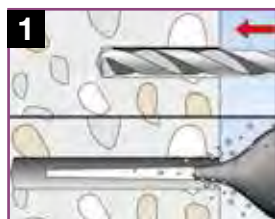
- economical thanks to reusability of the spindle bolts

Note: The clamping nuts included in the set are not offered by Fischer individually. However, this is a normal clamping nut, as used in formwork construction and available at any construction site.



DG 2070

Item no.	Type	Hole Ø	Clamping range	Min. depth of drilled holes for push-through assembly	Overall length	Anchoring depth	Price per piece	Package contents
62510	FDBB Set - 16/50 M 6	16 mm	50 mm	135 mm	200 mm	60 mm	•	1
625101	Expansion element FDBB 16 SE	16 mm					•	25



Fischer high-performance anchor FH II

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 6 to M 24, approval no. ETA-07/0025 for galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer FH II high-performance anchors are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, machinery, devices and much more.

Properties: The Fischer FH II high-performance anchors can be installed in the push-through procedure and are available with hexagonal bolts (type S), with threaded bolts (type B), with countersunk head (type SK) and with internal thread (type I). The black plastic ring absorbs the tightening slip and serves to firmly press the fixture to the anchoring base. This prevents the dowel from rotating as well.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

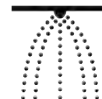
- small axial and edge spacing
- type B, variable use, type S and SK with visually pleasing finish
- residue-free dismantling possible without cutting off the bolts
- type I, compliant installation without a torque wrench possible with visual setting control
- type I, dismantling on the surface and removal of the dowel possible
- type I, optimum adaptation to the respective component by using customary screws and threaded rods with metric thread



Type FH-S with hexagonal bolt

galvanized

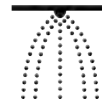
Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes for push-through assembly	Price per 100 pieces	Pack- age con- tents
627121010	FH II 10/10 S	M 6	10 mm	70 mm	10 mm	40 mm	65 mm	•	50
627121025	FH II 10/25 S	M 6	10 mm	85 mm	25 mm	40 mm	80 mm	•	50
627121210	FH II 12/10 S	M 8	12 mm	90 mm	10 mm	60 mm	90 mm	•	50
627121225	FH II 12/25 S	M 8	12 mm	105 mm	25 mm	60 mm	105 mm	•	50
627121250	FH II 12/50 S	M 8	12 mm	130 mm	50 mm	60 mm	130 mm	•	25
627121510	FH II 15/10 S	M 10	15 mm	106 mm	10 mm	70 mm	100 mm	•	25
627121525	FH II 15/25 S	M 10	15 mm	121 mm	25 mm	70 mm	115 mm	•	25
627121550	FH II 15/50 S	M 10	15 mm	146 mm	50 mm	70 mm	140 mm	•	25
627121810	FH II 18/10 S	M 12	18 mm	118 mm	10 mm	80 mm	115 mm	•	20
627121825	FH II 18/25 S	M 12	18 mm	132 mm	25 mm	80 mm	130 mm	•	20
627121850	FH II 18/50 S	M 12	18 mm	157 mm	50 mm	80 mm	155 mm	•	20
627122425	FH II 24/25 S	M 16	24 mm	160 mm	25 mm	100 mm	150 mm	•	10
627122450	FH II 24/50 S	M 16	24 mm	185 mm	50 mm	100 mm	175 mm	•	10



DG 2034

Type FH-B with threaded bolt and nut

Properties: Type B can easily be converted into tension or internally threaded anchors by screwing on ring nuts or internally threaded sleeves. The black plastic ring absorbs the tightening slip and serves to firmly press the fixture to the anchoring base. This prevents the dowel from rotating as well.



DG 2044

galvanized

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes for push-through assembly	Price per 100 pieces	Pack- age con- tents
627131010	FH II 10/10 B	M 6	10 mm	70 mm	10 mm	40 mm	65 mm	•	50
627131025	FH II 10/25 B	M 6	10 mm	85 mm	25 mm	40 mm	80 mm	•	50
627131210	FH II 12/10 B	M 8	12 mm	90 mm	10 mm	60 mm	90 mm	•	50
627131225	FH II 12/25 B	M 8	12 mm	105 mm	25 mm	60 mm	105 mm	•	50
627131250	FH II 12/50 B	M 8	12 mm	130 mm	50 mm	60 mm	130 mm	•	25
627131510	FH II 15/10 B	M 10	15 mm	110 mm	10 mm	70 mm	100 mm	•	25

Continuation of Fischer FH II high-performance anchor

galvanized

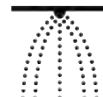
with threaded bolt and nut type FH-B

DG 2034

Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range, max.	Minimum anchoring depth	Min. depth of drilled holes for push-through assembly	Price per 100 pieces	Pack- age con- tents
627131525	FH II 15/25 B	M 10	15 mm	125 mm	25 mm	70 mm	115 mm	•	25
627131550	FH II 15/50 B	M 10	15 mm	150 mm	50 mm	70 mm	140 mm	•	25
627131825	FH II 18/25 B	M 12	18 mm	140 mm	25 mm	80 mm	130 mm	•	20
627131850	FH II 18/50 B	M 12	18 mm	165 mm	50 mm	80 mm	155 mm	•	20
6271318100	FH II 18/100 B	M 12	18 mm	215 mm	100 mm	80 mm	205 mm	•	10
627132425	FH II 24/25 B	M 16	24 mm	167 mm	25 mm	100 mm	150 mm	•	10
627132450	FH II 24/50 B	M 16	24 mm	192 mm	50 mm	100 mm	175 mm	•	10

Type FH-SK with countersunk head (zinc-plated)

Properties: Mounting on the surface using countersunk screw. The black plastic ring absorbs the tightening slip and serves to firmly press the fixture to the anchoring base. This prevents the dowel from rotating as well.



galvanized

DG 2034

Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range, max.	Minimum anchoring depth	Min. depth of drilled holes for push-through assembly	Price per 100 pieces	Pack- age con- tents
6217141015	FH II 10/15 SK	M 6	10 mm	65 mm	15 mm	-	70 mm	•	50
6217141025	FH II 10/25 SK	M 6	10 mm	75 mm	25 mm	-	80 mm	•	50
6217141050	FH II 10/50 SK	M 6	10 mm	100 mm	50 mm	-	105 mm	•	50
6217141215	FH II 12/15 SK	M 8	12 mm	90 mm	15 mm	-	95 mm	•	25
6217141225	FH II 12/25 SK	M 8	12 mm	100 mm	25 mm	-	105 mm	•	25
6217141250	FH II 12/50 SK	M 8	12 mm	125 mm	50 mm	-	130 mm	•	25
6217141515	FH II 15/15 SK	M 10	15 mm	100 mm	15 mm	-	105 mm	•	25
6217141525	FH II 15/25 SK	M 10	15 mm	110 mm	25 mm	-	115 mm	•	25
6217141550	FH II 15/50 SK	M 10	15 mm	135 mm	50 mm	-	140 mm	•	25
6217141815	FH II 18/15 SK	M 12	18 mm	115 mm	15 mm	-	120 mm	•	20
6217141825	FH II 18/25 SK	M 12	18 mm	125 mm	25 mm	-	130 mm	•	20
6217141850	FH II 18/50 SK	M 12	18 mm	150 mm	50 mm	-	155 mm	•	20

Type FH-SK with countersunk head (stainless steel)

Properties: Mounting on the surface using countersunk screw. The black plastic ring absorbs the tightening slip and serves to firmly press the fixture to the anchoring base. This prevents the dowel from rotating as well.



Stainless
steel A4

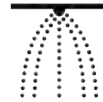
DG 2044

Item no.	Type	Thread	Drill Ø	Overall length	Clamp- ing range, max.	Minimum anchoring depth	Min. depth of drilled holes for push-through assembly	Price per 100 pieces	Pack- age con- tents
6217151215	FH II 12/15 SK	M 8	12 mm	90 mm	15 mm	-	95 mm	•	25
6217151230	FH II 12/30 SK	M 8	12 mm	105 mm	30 mm	-	110 mm	•	25
6217151250	FH II 12/50 SK	M 8	12 mm	125 mm	50 mm	-	130 mm	•	25
6217151515	FH II 15/15 SK	M 10	15 mm	100 mm	15 mm	-	105 mm	•	25
6217151830	FH II 18/30 SK	M 12	18 mm	130 mm	30 mm	-	135 mm	•	20

Continuation of Fischer FH II high-performance anchor

Type FH-I with internal thread

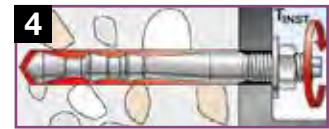
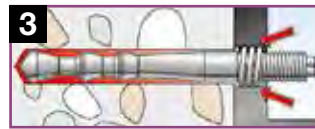
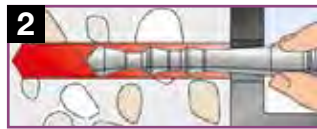
Properties: Mounting on the surface using countersunk screw.
The black plastic ring absorbs the tightening slip and serves to firmly press the fixture to the anchoring base. This prevents the dowel from rotating as well.



galvanized

DG 2034

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes for push-through assembly	Price per 100 pieces	Pack-age contents
621715126	FH II 12/M 6 I	M 6	12 mm	77.5 mm	-	-	85 mm	•	25
621715128	FH II 12/M 8 I	M 8	12 mm	77.5 mm	-	-	12 mm	•	25
6217151510	FH II 15/M 10 I	M 10	15 mm	90 mm	-	-	95 mm	•	25
6217151512	FH II 15/M 12 I	M 12	15 mm	90 mm	-	-	95 mm	•	20



① Loads for high-performance anchor FH II galvanically zinc-plated / stainless steel A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
FH II 10	40	80	10 (15) ⁵⁾	3.6	4.3	60	100	120	45	40
FH II 12	60	120	17, 5 ⁶⁾ / 22.5 ⁷⁾ / 25 ⁸⁾	5.7	15.9 (15.4) ⁹⁾	98	320 (310) ⁹⁾	180	50	50
FH II 15	70	140	40 (38) ⁶⁾	7.6	20.1	105	365	210	60	60
FH II 18	80	160	80 (100) ⁶⁾	11.9	24.5	120	410	240	70	70
FH II 24	100	200	160 (120) ⁶⁾	17.1	34.3	150	495	300	80	80
FH II 28	125	250	180	24.0	47.9	188	610	375	100	100
FH II 32	150	300	200	31.5	63.0	225	720	450	120	120

The entire ETA - 07/0025 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.
- 4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.
- 5) Only applies to FH II S A4.
- 6) Only applies to FH II B.
- 7) Only applies to FH II S, SK and H.
- 8) Only applies to FH II A4.
- 9) Only applies to FH II B and H.

Continued on the next page

❶ Loads for high-performance internal thread FH II-I galvanically zinc-plated / stainless steel A4

Permissible loads ¹³⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing ⁷⁾
		h_{ef} [mm]	h_{min} [mm]	$T_{inst}^{6)}$ [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{5)}$ [mm]	$c_{min}^{5/7)}$ [mm]
FH II - I 12 / M6	gzp A4 / C	60	125	15	4.3	4.6 3.2	50	80 60	180	50	50
FH II - I 12 / M8	gzp A4 / C	60	125	15	4.3	8.0 6.0	50	145 105	180	50	50
FH II - I 15 / M10	gzp A4 / C	70	150	25	5.7	13.1 9.2	60	220 145	210	60	60
FH II - I 15 / M12	gzp A4 / C	70	150	25	5.7	13.7	60	230	210	60	60

The entire ETA - 07/0025 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration. Dowels with axial spacing of $s \geq 3 \times h_{ef}$ are considered single dowels.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) For screw strength class 8.8 (gzp) and A4-70 (A4).
- 4) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.
- 5) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.
- 6) installation torque when the internally threaded anchor is set. As an alternative to applying a installation torque, the anchor can be tightened to 3-5 mm shelter to the concrete surface.
- 7) Without reduction of the permissible tensile load.

MKT heavy-duty anchor SZ

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 6 to M 20, approval no. ETA-02/0030 for galvanically zinc-plated steel and stainless steel A4 M 8 - M 16.

Application: The MKT SZ heavy-duty anchors are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, machinery, devices and much more.

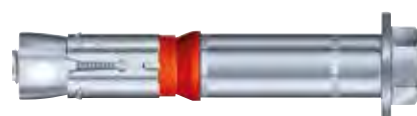
Properties: The MKT SZ heavy-duty anchor can be installed in a push-through procedure and is available with hexagonal bolts (type S), threaded bolts (type B) or counter-sunk heads (type SK). Nothing to trip over with type SK. Type B can easily be converted into tension or internally threaded anchors by screwing on ring nuts or internally threaded sleeves. The red plastic ring absorbs the tightening slip and serves to firmly press the fixture to the anchoring base. This prevents the dowel from rotating as well.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- 3-part expansion sleeve for optimum hold in concrete
- type B, variable use, type S and SK with visually pleasing finish
- residue-free dismantling possible without cutting off the bolts

Note: Special lengths can be produced on short notice by request by using long threaded rods as well as spacer dowels with protruding threaded bolts.



Type S with hexagonal bolt



DG 2037

galvanized									
Item no.	Type	Thread	Drill Ø	Total length	Clamping range, max.	Setting depth	Min. depth of drilled holes for push-through	Price per 100 pieces	Pack- age con- tents
620041010	SZ-S 10/10	M 6	10 mm	75 mm	10 mm	60 mm	65 mm	•	50
620041210	SZ-S 12/10	M 8	12 mm	85 mm	10 mm	70 mm	80 mm	•	50
620041230	SZ-S 12/30	M 8	12 mm	105 mm	30 mm	70 mm	80 mm	•	50
620041250	SZ-S 12/50	M 8	12 mm	125 mm	50 mm	70 mm	80 mm	•	0
620041515	SZ-S 15/15	M 10	15 mm	106 mm	15 mm	85 mm	95 mm	•	25
620041525	SZ-S 15/25	M 10	15 mm	116 mm	25 mm	85 mm	95 mm	•	25
620041545	SZ-S 15/45	M 10	15 mm	136 mm	45 mm	85 mm	95 mm	•	25
620041810	SZ-S 18/10	M 12	18 mm	117 mm	10 mm	95 mm	105 mm	•	20
620041820	SZ-S 18/20	M 12	18 mm	127 mm	20 mm	95 mm	105 mm	•	20
620041840	SZ-S 18/40	M 12	18 mm	147 mm	40 mm	95 mm	105 mm	•	20
620042420	SZ-S 24/20	M 16	24 mm	150 mm	20 mm	120 mm	130 mm	•	10
620042450	SZ-S 24/50	M 16	24 mm	180 mm	50 mm	120 mm	130 mm	•	10

Continuation of MKT heavy-duty anchor SZ

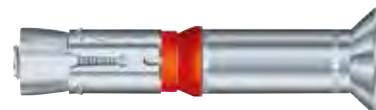


Type B with threaded bolt and nut

galvanized

DG 2037

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Setting depth	Min. depth of drilled holes	Price per 100 pieces	Package contents
620051010	SZ-B 10/10	M 6	10 mm	77 mm	10 mm	60 mm	65 mm	•	50
620051210	SZ-B 12/10	M 8	12 mm	90 mm	10 mm	70 mm	80 mm	•	50
620051230	SZ-B 12/30	M 8	12 mm	110 mm	30 mm	70 mm	80 mm	•	50
620051515	SZ-B 15/15	M 10	15 mm	111 mm	15 mm	85 mm	95 mm	•	25
620051525	SZ-B 15/25	M 10	15 mm	121 mm	25 mm	85 mm	95 mm	•	25
620051545	SZ-B 15/45	M 10	15 mm	141 mm	45 mm	85 mm	95 mm	•	25
620051810	SZ-B 18/10	M 12	18 mm	122 mm	10 mm	95 mm	105 mm	•	20
620051820	SZ-B 18/20	M 12	18 mm	132 mm	20 mm	95 mm	105 mm	•	20
620051840	SZ-B 18/40	M 12	18 mm	152 mm	40 mm	95 mm	105 mm	•	20
6200518100	SZ-B 18/100	M 12	18 mm	212 mm	100 mm	95 mm	105 mm	•	10
620052420	SZ-B 24/20	M 16	24 mm	157 mm	20 mm	120 mm	130 mm	•	10
620052450	SZ-B 24/50	M 16	24 mm	187 mm	50 mm	120 mm	130 mm	•	10



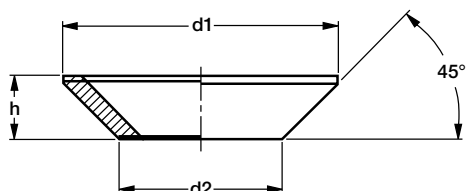
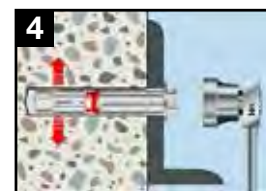
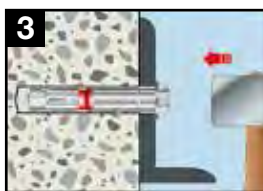
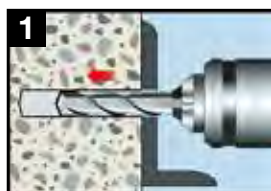
Type SK with countersunk head

galvanized

DG 2037

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Setting depth	Min. depth of drilled holes	Price per 100 pieces	Package contents
62006106	SZ-SK 10/10	M 6	10 mm	70 mm	10 mm	60 mm	65 mm	•	50
62006127	SZ-SK 12/10	M 8	12 mm	80 mm	10 mm	70 mm	80 mm	•	50
620061217	SZ-SK 12/25	M 8	12 mm	95 mm	25 mm	70 mm	80 mm	•	50
620061250	SZ-SK 12/50	M 8	12 mm	120 mm	50 mm	70 mm	80 mm	•	25
620061510	SZ-SK 15/10	M 10	15 mm	95 mm	10 mm	85 mm	95 mm	•	25
620061525	SZ-SK 15/25	M 10	15 mm	110 mm	25 mm	85 mm	95 mm	•	25
620061822	SZ-SK 18/20	M 12	18 mm	115 mm	20 mm	95 mm	105 mm	•	20
620061840	SZ-SK 18/40	M 12	18 mm	135 mm	40 mm	95 mm	105 mm	•	20

Other dimensions can be delivered at short notice from factory stock.



Dimensions		d1	d2	h
SK 10 M 6	(mm)	16.5	9.5	3.9
SK 12 M 8	(mm)	20.5	11.5	5.0
SK 15 M 10	(mm)	24.5	14.5	5.7
SK 18 M 12	(mm)	29.5	17.5	6.7

Continued on the next page

① Loads for MKT SZ-S heavy-duty anchor galv. zinc-plated / stainless A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
SZ-S 10 M6	gzp	50	100	15	2.4	10.3	75	230	150	50	50
SZ-S 12 M8	gzp	60	120	30	5.7	15.9	90	320	180	60	60
	A4				4.3	12.6		250		70	75
SZ-S 15 M10	gzp	71	140	50	7.6	20.5	106.5	375	213	70	70
	A4					19.4		355		85	85
SZ-S 18 M12	gzp	80	160	80	11.9	24.5	120	410	240	80	80
	A4				12.3					100	100
SZ-S 24 M16	gzp	100	200	160	17.1	34.3	150	495	300	100	100
	A4			170						180	180

The entire ETA - 02/0030 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

① Loads for MKT SZ-B heavy-duty anchor galv. zinc-plated / stainless A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
SZ-B 10 M6	gzp	50	100	15	2.4	9.1	75	200	150	50	50
SZ-B 12 M8	gzp	60	120	30	5.7	14.3	90	285	180	60	60
	A4			35	4.3	13.7		275		70	75
SZ-B 15 M10	gzp	71	140	50	7.6	20.5	106.5	375	213	70	70
	A4			55				375		85	85
SZ-B 18 M12	gzp	80	160	80	11.9	24.5	120	410	240	80	80
	A4			90	12.3					100	100
SZ-B 24 M16	gzp	100	200	160	17.1	34.3	150	495	300	100	100
	A4			170						180	180

The entire ETA - 02/0030 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

① Loads for MKT SZ-SK heavy-duty anchor galv. zinc-plated / stainless A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	$s_{min}^{4)}$ [mm]	$c_{min}^{4)}$ [mm]
SZ-SK 10 M6	gzp	50	100	10	2.4	10.3	75	230	150	50	50
SZ-SK 12 M8	gzp	60	120	25	5.7	15.9	90	320	180	60	60
	A4			17.5	4.3	12.6		250		70	75
SZ-SK 15 M10	gzp	71	140	55	7.6	20.5	106.5	375	213	70	70
	A4			42.5		19.4		355		85	85
SZ-SK 18 M12	gzp	80	160	70	11.9	24.5	120	410	240	80	80
	A4			50	12.3					100	100

The entire ETA - 02/0030 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

Liebig safety dowels

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M6 to M16, approval no. ETA-06/0108 for galvanically zinc-plated steel and stainless steel A4.

Application: The Liebig safety dowels are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, machinery, devices and much more.

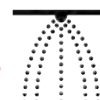
Properties: The Liebig safety dowels can be installed in a push-through procedure and are available with hexagonal bolts (type S), threaded bolts (type B) or counter-sunk heads (type SK). Nothing to trip over with type SK. Type B can easily be converted into tension or internally threaded anchors by screwing on ring nuts or internally threaded sleeves. Among other things, the curved washer is used to firmly press the fixture to the anchoring base.

Installation instructions: Installation only permitted with torque wrench.

Advantages:

- guaranteed 2 cone expansion. Cylindrical expansion over the entire length of the expansion sleeve
- visual installation inspection with the curved washer
- visually pleasing finish for the S and SK types
- residue-free dismantling possible without cutting off the bolts

Note: Special lengths can be produced on short notice by request by using long threaded rods as well as spacer dowels with protruding threaded bolts.



Type S with hexagonal bolt

galvanized

DG 2035

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes	Price per 100 pieces	Package contents
6200110455	SM 6-10/45/5	M 6	10 mm	70 mm	5 mm	45 mm	60 mm	•	50
620011035	SM 6-10/45/15	M 6	10 mm	80 mm	15 mm	45 mm	60 mm	•	50
620011060	SM 6-10/45/40	M 6	10 mm	105 mm	40 mm	45 mm	60 mm	•	50
6200112555	SM 8-12/55/5	M 8	12 mm	80 mm	5 mm	55 mm	70 mm	•	25
620011240	SM 8-12/55/15	M 8	12 mm	90 mm	15 mm	55 mm	70 mm	•	25
620011265	SM 8-12/55/40	M 8	12 mm	115 mm	40 mm	55 mm	70 mm	•	25
6200115705	SM 10-15/70/5	M 10	15 mm	95 mm	5 mm	70 mm	85 mm	•	25
620011545	SM 10-15/70/15	M 10	15 mm	105 mm	15 mm	70 mm	85 mm	•	25
620011570	SM 10-15/70/40	M 10	15 mm	130 mm	4 mm	70 mm	85 mm	•	10
620012050	SM 12-80/20/15	M 12	20 mm	123 mm	15 mm	80 mm	100 mm	•	10
620012075	SM 12-20/80/40	M 12	20 mm	148 mm	40 mm	80 mm	100 mm	•	10
620012555	SM 16-25/100/15	M 16	25 mm	155 mm	15 mm	100 mm	125 mm	•	5
620012580	SM 16-25/100/40	M 16	25 mm	180 mm	40 mm	100 mm	125 mm	•	5



Type B with threaded bolt and nut

galvanized

DG 2035

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes	Price per 100 pieces	Package contents
620021035	BM 6-10/45/15	M 6	10 mm	8 mm	15 mm	45 mm	60 mm	•	50
620021060	BM 6-10/45/40	M 6	10 mm	105 mm	40 mm	45 mm	60 mm	•	50
6200212555	BM 8-12/55/5	M 8	12 mm	85 mm	5 mm	55 mm	70 mm	•	25
620021240	BM 8-12/55/15	M 8	12 mm	95 mm	15 mm	55 mm	70 mm	•	25
620021265	BM 8-12/55/40	M 8	12 mm	120 mm	40 mm	55 mm	70 mm	•	25
620021545	BM 10-15/70/15	M 10	15 mm	110 mm	15 mm	70 mm	85 mm	•	25
620021570	BM 10-15/70/40	M 10	15 mm	135 mm	40 mm	70 mm	85 mm	•	10
620021595	BM 10-15/70/65	M 10	15 mm	160 mm	65 mm	70 mm	85 mm	•	10
6200215120	BM 10-15/70/100	M 10	15 mm	195 mm	100 mm	70 mm	85 mm	•	10

Continuation of Liebig safety dowels

Type BM with threaded bolt and nut

galvanized

DG 2035

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes	Price per 100 pieces	Package contents
6200220805	BM 12-20/80/5	M 12	20 mm	120 mm	5 mm	80 mm	100 mm	•	10
620022050	BM 12-20/80/15	M 12	20 mm	130 mm	15 mm	80 mm	100 mm	•	10
620022075	BM 12-20/80/40	M 12	20 mm	155 mm	40 mm	80 mm	100 mm	•	10
6200220100	BM 12-20/80/65	M 12	20 mm	180 mm	65 mm	80 mm	100 mm	•	10
6200220125	BM 12-20/80/100	M 12	20 mm	215 mm	100 mm	80 mm	100 mm	•	20
620022555	BM 16-25/100/15	M 16	25 mm	160 mm	15 mm	100 mm	125 mm	•	5
620022580	BM 16-25/100/40	M 16	25 mm	185 mm	40 mm	100 mm	125 mm	•	5



Type SK with countersunk head and hexagon socket

galvanized

DG 2035

Item no.	Type	Thread	Drill Ø	Overall length	Clamping range, max.	Minimum anchoring depth	Min. depth of drilled holes	Price per 100 pieces	Package contents
620031035	SK M 6-10/45/15	M 6	10 mm	70 mm	15 mm	45 mm	60 mm	•	50
620031060	SK M 6-10/45/40	M 6	10 mm	95 mm	40 mm	45 mm	60 mm	•	50
620031240	SK M 8-12/55/15	M 8	12 mm	85 mm	15 mm	55 mm	70 mm	•	25
620031265	SK M 8-12/55/40	M 8	12 mm	110 mm	40 mm	55 mm	70 mm	•	25
620031545	SK M 10-15/70/15	M 10	15 mm	100 mm	15 mm	70 mm	85 mm	•	25
620031570	SK M 10-15/70/40	M 10	15 mm	120 mm	40 mm	70 mm	85 mm	•	10
620032050	SK M 12-20/80/15	M 12	20 mm	110 mm	15 mm	80 mm	100 mm	•	10

① Loads for safety dowels S, B, SK

With edge reinforcement

Permissible loads ¹⁾ of a single dowel in cracked normal concrete of strength C20/25 (~B25)								minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. tensile/transverse load		min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	V_{perm} [kN]	V_{perm} [kN]	Tensile load $C_{cr,N}$ [mm]	Transverse load $C_{cr,N}$ [mm]	s_{min} [mm]	c_{min} [mm]
B, S, SK M6	45	100	8	2.4	5.2	67.5	75	60	80
B, S, SK M8	55	110	15	3.6	7	82.5	95	100	100
B, S, SK M10	70	140	40	7.6	20.1	105	250	150	150
B, S, SK M12	80	160	70	12.3	24.5	120	275	200	200
B, S, SK M16	100	200	115	17.1	34.3	150	335	250	250

Without edge reinforcement

Permissible loads of a single dowel in cracked normal concrete of strength C20/25 (-B25)								minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. tensile/transverse load		min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	V_{perm} [kN]	V_{perm} [kN]	Tensile load $C_{cr,N}$ [mm]	Transverse load $C_{cr,N}$ [mm]	s_{min} [mm]	c_{min} [mm]
B, S, SK M6	45	100	8	2.4	5.2	67.5	110	60	80
B, S, SK M8	55	110	15	3.6	7	82.5	135	100	100
B, S, SK M10	70	140	40	7.6	20.1	105	365	150	150
B, S, SK M12	80	160	70	12.3	24.5	120	405	200	200
B, S, SK M16	100	200	115	17.1	34.3	150	495	250	250

The entire ETA - 06/0108 approval notice is to be observed for the measurement.

- Load specifications take into account the partial safety factors indicated in the approval of the resistors as well as a partial safety value of the effect $\gamma_F=1.4$. Unreinforced or normally reinforced concrete with a rebar spacing of $s \geq 10$ cm with a diameter of $d_s \leq 10$ mm is assumed for the indicated values.
- Transverse load specifications refer to an anchor without an edge. For transverse loads close to the edge ($c < 10 h_{ef}$ or $< 60 d$), proof is to be provided of the concrete edge failure according to ETAG 001, annex C, calculation procedure A.
- If the characteristic axial spacing $s_{cr,N}$ is not reached, a calculation according to ETAG 001, annex C calculation procedure A is to be carried out. For further specifications, see approval ETA-06/0108.
- The characteristic edge spacing $c_{cr,N}$ is a measurement value for the static proof. The minimum edge spacing C_{min} is crucial for the constructive design and must not be below the value specified.
- For s_{min} , the associated value c and for c_{min} , the associated value s can be found in the approval.

Fischer heavy-duty anchor TAM

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 12, approval no. ETA-04/0003 for galvanically zinc-plated steel.

Application: The Fischer TA M heavy-duty anchors are used to fasten medium-weight to heavy objects in concrete. Main application areas include metal structures of all kinds, fastening supports and machine feet to the floor.

Properties: By tightening the screw or hexagon nut, the cone is pulled into the expansion sleeve and braces against the borehole wall.

Installation instructions: Installation only permitted with torque wrench.



galvanized

DG 2030

Item no.	Type	Thread	Hole Ø	Total length	Min. depth of drilled holes	Price per 100 pieces	Package contents
626598	TAM 8	M 8	12 mm	56 mm	70 mm	•	50
6265910	TAM 10	M 10	15 mm	69 mm	90 mm	•	25
6265912	TAM 12	M 12	18 mm	86 mm	105 mm	•	25

① Loads for TAM heavy-duty anchor

Permissible loads ¹⁾³⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)									minimum spacing while the load is simultaneously reduced	
Type	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	N_{perm} [kN]	V_{perm} [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
TA M6	40	100	10	3.6	3.3	50	55	120	80	50 ⁵⁾
TA M8	45	100	20	5.7	6.7	65	95	135	90	60
TA M10	55	110	40	9.5	11.0	160	150	220	110	70
TA M12	70	140	75	11.9	17.0	170	200	210	160	120

The entire ETA - 04/0003 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing.

3) For TA M and TA M-S, for screw strength class 8.8.

4) At higher concrete strengths, permissible loads up to 55% higher are possible. See approval.

5) No reduction of tensile load

Fischer internal thread expansion anchor FWB

Application: For non approval-related installations in concrete. Main areas of application include fasteners that need to be detached again, such as fastening diamond drill and sawing machines.

Properties: Made of galvanically zinc-plated steel. Completely detachable. Can be used multiple times.

Installation instructions: Installation only permitted with torque wrench.

Advantage:

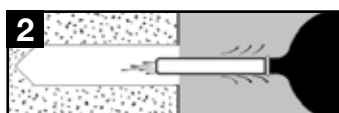
- reduced material costs thanks to multiple uses



DG 2070

galvanized

Item no.	Thread	Dowel length	Hole Ø in concrete	Price per 100 pieces	Package contents
6204212	M 12	75 mm	20 mm	•	50



Fischer hammerset anchor EA II

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 20, approval no. ETA-07/0135 for galvanically zinc-plated steel and stainless steel A4.

European Technical Approval for redundant (multi) fasteners M 6 to M 12 approval no. ETA-07/0142 for galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer EA II hammerset anchors are used to fasten light to heavy objects in concrete. Main application areas are metal structures of all kinds, suspending pipes, ventilation ducts, sprinkler systems in sanitary, heating and ventilation engineering as well as fastening suspended ceilings.

Properties: Low setting depths. Easy, repeated loosening and refastening of fixtures is possible. The EA II internally threaded anchor has a molded edge that prevents sliding deeper into holes that were drilled too deep. Optical setting control using an impression during insertion with the EAW setting tool.

Installation instructions: Hammerset anchors are deformation-controlled. Nevertheless, a torque wrench is required for tightening the screws or lock nuts.

Advantages:

- shaped edge prevents sliding deeper
- optical setting control using an impression on the edge of the dowel

Note: When using the Fischer EAW - H Plus setting tool, the proof loads common with many hammerset anchors are eliminated.

fischer
innovative solutions



galvanized

DG 2066

Item no.	Thread	Dowel length	Minimum anchoring depth	Hole Ø	Screw-in depth min./max.	Price per 100 pieces	Package contents
62747630	M 6	30 mm	30 mm	8 mm	6/13 mm	•	100
62747830	M 8	30 mm	30 mm	10 mm	8/13 mm	•	100
62747840	M 8	40* mm	40 mm	10 mm	8/13 mm	•	50
627471030	M 10	30** mm	30 mm	12 mm	10/13 mm	•	50
627471040	M 10	40 mm	40 mm	12 mm	10/17 mm	•	50
627471250	M 12	50 mm	50 mm	15 mm	12/22 mm	•	25
627471665	M 16	65 mm	65 mm	20 mm	16/28 mm	•	20
627472080	M 20	80 mm	80 mm	25 mm	20/34 mm	•	10

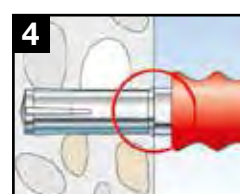
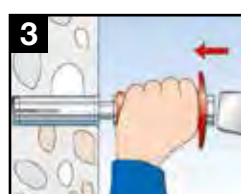
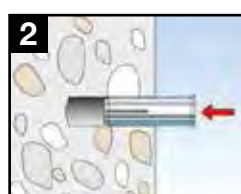
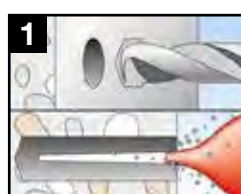
*) extra long, **) extra short



Stainless steel A4

DG 2066

Item no.	Thread	Dowel length	Minimum anchoring depth	Hole Ø	Screw-in depth min./max.	Price per 100 pieces	Package contents
62749630	M 6	30 mm	30 mm	8 mm	6/13 mm	•	100
62749830	M 8	30 mm	30 mm	10 mm	8/13 mm	•	100
62749840	M 8	40 mm	40 mm	10 mm	8/13 mm	•	50
627491040	M 10	40 mm	40 mm	12 mm	10/17 mm	•	50
6274912501	M 12	50 mm	50 mm	15 mm	12/22 mm	•	25
627491665	M 16	65 mm	65 mm	20 mm	16/28 mm	•	20
627492080	M 20	80 mm	80 mm	25 mm	20/34 mm	•	10



Fischer hammerset anchor EA II M 12 D

Approved by the building authorities: European Technical Approval, non-cracked concrete, M12, approval no. ETA-07/0135 for galvanically zinc-plated steel.

Type: The Fischer EA II-D hammerset anchors are used to fasten diamond drills and diamond saws.

Properties: Low setting depths. Easy, repeated loosening and refastening of fixtures is possible. The EA II internally threaded anchor has a molded edge that prevents sliding deeper into holes that were drilled too deep. Optical setting control using an impression during insertion with the EAW setting tool.

Installation instructions: Hammerset anchors are deformation-controlled. Nevertheless, a torque wrench is required for tightening the screws or lock nuts.

Advantages:

- shaped edge prevents sliding deeper
- optical setting control using an impression on the edge of the dowel

Note: Diamond drill and saw machine attachments frequently move at the top of the load of common hammerset anchors. The thick-walled design provides more security and prevents the anchor sleeve from breaking when the machines are started. When using the Fischer EAW - H Plus setting tool, the proof loads common with many hammerset anchors are eliminated.



galvanized

DG 2063

Item no.	Thread	Dowel length	Minimum anchoring depth	Hole Ø in concrete	Screw-in depth min. / max.	Price per 100 pieces	Package contents
627491250	M 12	50 mm	50 mm	16 mm	12/22 mm	•	100

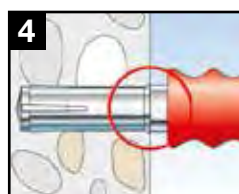
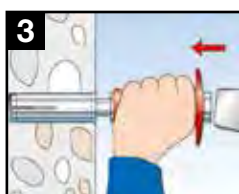
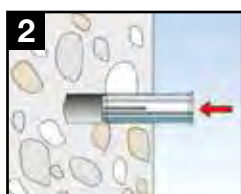
Fischer setting tool EAW H plus for hammerset anchor EA II

Application: For setting the Fischer EA II and EA II-D hammerset anchors

Properties: Simple setting control. During insertion, the setting tool leaves a clearly visible impression on the edge of the dowel.

DG 2071

Item no.	For hammerset anchor EA II	Price per piece	Package contents
62748630	M 6 x 30	•	1
62748830	M 8 x 30	•	1
62748840	M 8 x 40	•	1
627481030	M 10 x 30	•	1
627481040	M 10 x 40	•	1
627481250	M 12 x 50	•	1
627481665	M 16 x 65	•	1
627482080	M 20 x 80	•	1



Continued on the next page

① Loads for hammer-set anchor EA II galvanically zinc-plated / stainless steel A4

Permissible loads ¹⁾³⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	max. installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing ⁷⁾
		h_{ef} [mm]	h_{min} [mm]	max. T_{inst} [Nm]	N_{perm} ²⁾ [kN]	V_{perm} ²⁾ [kN]	c [mm]	c [mm]	s_{cr} ⁸⁾ [mm]	s_{min} [mm]	c_{min} [mm]
EA II M6 ⁵⁾	gzp	30	100	4	3.95	3.9	115	115	90	65	115 ⁶⁾
	A4					3.2		115			
EA II M8 ⁵⁾	gzp	30	100	8	3.95	4.9	140	140	95	95 ⁶⁾	140 ⁶⁾
	A4					5.6		140			
EA II M8 x 40	gzp	40	100	8	6.1	4.9	140	140	120	95	140 ⁶⁾
	A4					5.6		140			
EA II M10 x 30 ⁵⁾	gzp	30	120	15	3.95	6.2	140	140	90	85	140 ⁶⁾
	A4					6.9		140			
EA II M10	gzp	40	120	15	6.1	6.2	160	160	120	95	160 ⁶⁾
	A4					7.1		160			
EA II M12	gzp	50	120	35	8.5	11.3	200	200	150	145	200 ⁶⁾
	A4					12.9		200			
EA II M12 D	gzp	50	120	35	8.5	15.4	200	200	150	145	200 ⁶⁾
EA II M16	gzp	65	160	60	12.6	18.3	240	240	195	180	240 ⁶⁾
	A4					21.1		240			
EA II M20	gzp	80	200	120	17.2	29.1	280	285	240	190	280 ⁹⁾
	A4					33.7		340			

The entire ETA - 07/0135 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) For screw strength class 8.8 (gzp) and A4-70 (A4).
- 4) The concrete is assumed to be normally reinforced.
- 5) The use is limited to statically indeterminate components.
- 6) No reduction of the load.
- 7) This edge spacing also corresponds to the edge spacing for the maximum tensile load, therefore no reduction of the load.
- 8) No simultaneously acting influence of concrete edges
- 9) No reduction of tensile load

① Loads for hammer-set anchor EA II galvanically zinc-plated / stainless steel A4

Permissible loads ¹⁾³⁾ of a single dowel for multi-fasteners ⁴⁾ in cracked normal concrete (concrete tensile zone) of strength C20/25 (~B25)							
Type	Material	effective anchoring depth	minimum component thickness	max. Installation torque	permissible load	necessary axial spacing for max. load	necessary edge spacing for max. load
		h_{ef} [mm]	h_{min} [mm]	max. T_{inst} [Nm]	F_{perm} ²⁾ [kN]	$s=s_{min}$ [mm]	$c=c_{min}$ [mm]
EA II M6	gzp	30	80	4	1.2	200	150
	A4						
EA II M8	gzp	30	80	8	2.0	200	150
	A4						
EA II M8 x 40	gzp	40	80	8	2.0	200	150
	A4						
EA II M10 x 30	gzp	30	80	15	2.0	200	150
	A4						
EA II M10	gzp	40	80	15	3.0	250	200
	A4						
EA II M12	gzp	50	100	35	4.3	300	300
	A4						

The entire ETA - 07/0142 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) Valid for tensile load, transverse load and diagonal pull at any angle. For greater component thicknesses, for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups), see approval.
- 3) For screw strength class 4.6 (gzp) and A4-50 (A4).
- 4) A multi-fastener according to ETAG 001 part 6 is defined by at least 3 fixing points with at least one dowel each and a permissible load per fixing point of 1.4 kN or by at least 4 fixing points with at least one dowel each and a permissible load per fixing point of 2.1 kN.

MKT hammerset anchor E

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete, M 6 to M 20, approval no. ETA-02/0020 for stainless steel A4 as well as M 6 to M 10 for stainless steel HCR 1.4529.

European Technical Approval for redundant (multi) fasteners M 6 to M 16 approval no. ETA-05/0116 for stainless steel A4 and HCR.

Application: The MKT E hammerset anchors are used to fasten light to heavy objects in concrete. Main application areas are metal structures of all kinds, suspending pipes, ventilation ducts, sprinkler systems in sanitary, heating and ventilation engineering as well as fastening suspended ceilings.

Properties: Low setting depths. Easy, repeated loosening and refastening of fixtures is possible.

Installation instructions: Hammerset anchors are deformation-controlled. Nevertheless, torque is required for tightening the screws or lock nuts so as not to damage the dowel.

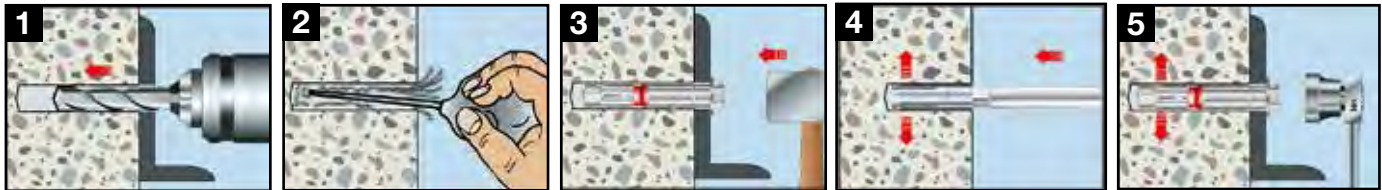
Note: Use setting tool type E-SW for installation.



Stainless steel A4

DG 2069

Item no.	Thread	Dowel length	Hole Ø	Min. depth of drilled holes	Screw-in depth	Price per 100 pieces	Package contents
621076	M 6	30 mm	8 mm	30 mm	7 - 13 mm	•	100
621078	M 8	30 mm	10 mm	30 mm	9 - 13 mm	•	100
6210710	M 10	40 mm	12 mm	40 mm	11 - 15 mm	•	50
6210712	M 12	50 mm	15 mm	50 mm	13 - 18 mm	•	50
6210716	M 16	65 mm	20 mm	65 mm	18 - 23 mm	•	25



❗ Loads for MKT hammerset anchor E stainless steel A4

Permissible loads of a single dowel ^{1) 4)} in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	max. installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	max. T_{inst} [Nm]	N_{perm} [kN]	V_{perm} [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
E M6x30	A4	30	100	4	3.9	3.2	80	80	90	50	80
E M8x30	A4	30	100	8	3.9	4.9	95	95	90	60	95
E M10x40	A4	40	130	15	6.1	6.1	135	135	120	100	135
E M12x50	A4	50	140	35	8.5	11.5	165	165	150	120	165
E M16x65	A4	65	160	60	12.6	19.2	200	215	195	150	200

The entire ETA - 02/0020 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).

3) At higher concrete strengths up to C50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.

4) Requirements for the screw or threaded rod and nut, see ETA-02/0020

Setting tool for MKT hammer set anchor E-SW

Application: For setting hammer set anchor E.



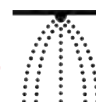
DG 2075

Item no.	For dowels	Price per piece	Package contents
621066	M 6	•	1
621068	M 8	•	1
6210610	M 10	•	1
6210612	M 12	•	1
6210616	M 16	•	1
6210620	M 20	•	1

MKT hollow ceiling dowel EASY

Approved by the building authorities: Approval no. Z - 21.1 - 1785 M 6 - M 12 for prestressed concrete slabs > B55 (C45/55).

Type: For anchorings in prestressed concrete slabs. When the dowel is expanded a form fit is created in the cavity of the ceiling.

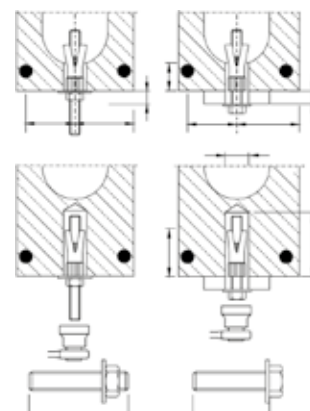
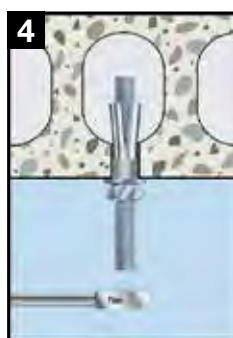
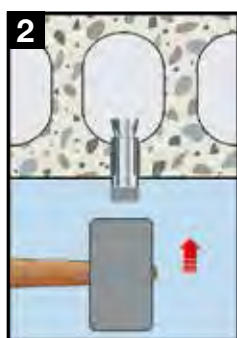
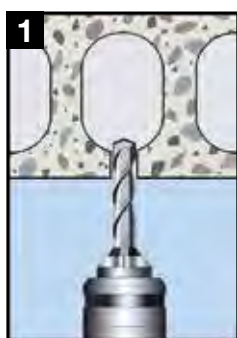


DG 2078

galvanized		Thread	Hole Ø	Sleeve length	Mirror thickness	Price per 100 pieces	Package contents
627408		M 8	12 mm	35 mm	25 - 50* mm	•	50
6274010		M 10	16 mm	40 mm	25 - 50* mm	•	50

M 6 + M 12 can be delivered at short notice

*different loads



Brass expansion dowel

Application: For light, non approval-related fasteners in concrete or in other homogeneous and pressure-resistant building materials.

Properties: Made of brass with internal thread for metric screws of all types.

Advantage:

- low anchoring depths

Note: Lightly expand the dowel before installation by screwing in a screw.



DG 2118

Item no.	Thread	Overall length	Hole Ø	Price per 100 pieces	Package contents
621005	M 5	20 mm	6 - 6.5 mm	•	100
621006	M 6	23 mm	8 mm	•	100
621008	M 8	30 mm	11 mm	•	100
6210010	M 10	34 mm	13 mm	•	100
6210012	M 12	40 mm	16 mm	•	50
6210016	M 16	44 mm	22 mm	•	25

Fischer FPX-I aerated concrete anchor

Approved by the building authorities: European Technical Approval for aerated concrete in compressive strength class 2 to 7 N/mm², aerated concrete wall and ceiling panels in compressive strength class 3.3 to 4.4 N/mm² and paneled aerated concrete masonry, e.g. plastered, tiled, wallpapered, etc. M 6 - M 12 ETA-12/0456.

Application: The Fischer FPX-I aerated concrete anchors are used for the safety-related attachment of objects in aerated concrete. Ideal for a number of applications in dry interior spaces such as fixing suspended ceilings, cable lines, pipes, ventilation ducts, railings and handrails.

Properties: The Fischer FPX-I aerated concrete anchor makes automatic and 100% setting control possible. The enclosed hexagonal pin is automatically released from the anchor once optimum expansion has been achieved. With the 4x expansion of the anchor, the aerated concrete is sealed at the four wings, thus creating an undercut.

Installation instructions: Every pack includes a hexagonal wrench for expanding the anchor. Insertion in high-strength aerated concrete is also possible by doing pre-drilling. Cleaning the borehole is not necessary.

Advantages:

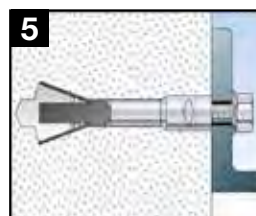
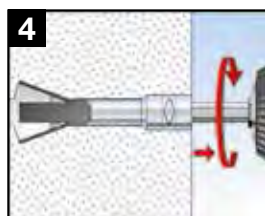
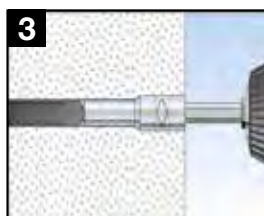
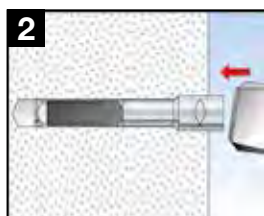
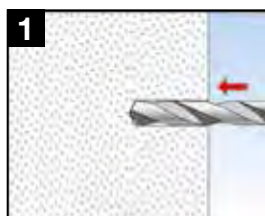
- no borehole cleaning necessary
- higher installation comfort thanks to simple deformation-controlled expanding by means of a battery-powered screwdriver or ratchet (no tightening torque required)
- very high installation safety thanks to automatic setting control
- high tensile and transverse loads thanks to unique 4x expansion
- permits safety-related fasteners in aerated concrete as the only steel anchor

Note: Galvanically zinc-plated screws in minimum strength class 4.8 are to be used. The fasteners are not included in the price of the Fischer aerated concrete anchors.



DG 2060

Item no.	Type	Hole Ø	Drilled hole depth for pre-positioned assembly	Dowel length	Screw-in depth min. / max.	Price per 100 pieces	Package contents
6205166	FPX M 6-I	10 mm	95 mm	75 mm	10 / 15 mm	•	25
6205168	FPX M 8-I	10 mm	95 mm	75 mm	8 / 15 mm	•	25
62051610	FPX M 10-I	10 mm	95 mm	75 mm	10 / 15 mm	•	25
62051612	FPX M 12-I	10 mm	95 mm	75 mm	12 / 15 mm	•	25



Continued on the next page

i Loads for FPX-I aerated concrete anchor

Permissible loads and required component dimensions in aerated concrete masonry

Type		FPX-I M6, M8, M10, M12
Permissible loads ¹⁾ per dowel		
Anchoring depth	[mm]	70
P 1.6 / $p_m \geq 0.25 \text{ kg/dm}^3$	[kN]	0.32
P 2.0 / $p_m \geq 0.35 \text{ kg/dm}^3$	[kN]	0.43
P 4.0 / $p_m \geq 0.50 \text{ kg/dm}^3$	[kN]	0.89
P 6.0 / $p_m \geq 0.65 \text{ kg/dm}^3$	[kN]	1.43
Component dimensions		
Minimum component thickness	h_{\min} [mm]	100
Single dowel		
Minimum clearance between the single dowels	a [mm]	375
Minimum edge spacing single dowel	c_1 [mm]	125
Minimum distance to non-mortared joints	$c_F^{4)}$ [mm]	75 ²⁾ / 125
Minimum corner spacing	c_1 / c_2 [mm]	125 / 190
Dowel group ³⁾		
Effect		Transverse + diagonal pull only central pull
Minimum axial spacing	s_{\min} [mm]	100 100
Minimum edge spacing	c_1 [mm]	250 125
Minimum clearance for dowel groups	a [mm]	750 375
Minimum corner spacing	c_1 / c_2 [mm]	250 / 374 125 / 190

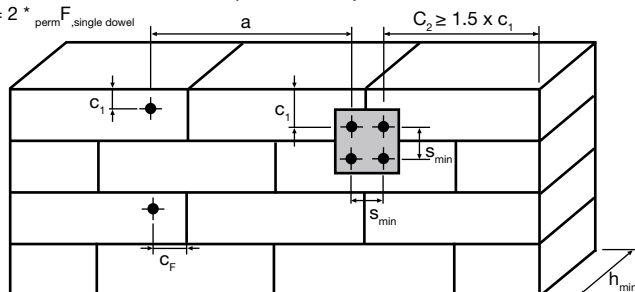
1) The necessary partial safety factors of the resistors and a partial safety factor $\gamma_F=1.4$ are taken into consideration

2) For non-mortared butt joint widths ≤ 2 mm and central tensile loads as well as transverse forces parallel to the joint

3) The following applies to dowel groups from 2 or 4 dowels:

$$F_{\text{perm, group}} = 2 \cdot F_{\text{perm, single dowel}}$$

4) For hidden joints, F_{perm} is to be halved



Aerated concrete masonry

i Loads for FPX-I aerated concrete anchor

Necessary component dimensions in aerated concrete slabs (wall and ceiling slabs, tensile or pressure zone)

Slab joints are to be taken into consideration as edges. For hidden joints, F_{perm} is to be halved¹⁾

Type		FPX-I M6, M8, M10, M12
Permissible loads ²⁾ per dowel		
Anchoring depth	[mm]	70
PB 3.3 / $p_m \geq 0.50 \text{ kg/dm}^3$, tensile zone of the aerated concrete slab	[kN]	0.62
PB 4.4 / $p_m \geq 0.55 \text{ kg/dm}^3$, tensile zone of the aerated concrete slab	[kN]	0.83
PB 3.3 / $p_m \geq 0.50 \text{ kg/dm}^3$, pressure zone of the aerated concrete slab	[kN]	0.83
PB 4.4 / $p_m \geq 0.55 \text{ kg/dm}^3$, pressure zone of the aerated concrete slab	[kN]	1.24
Component dimensions		
Minimum component thickness	h_{\min} [mm]	100
Single dowel		
Minimum clearance between the single dowels	a [mm]	600
Minimum edge spacing single dowel	c_1 [mm]	125 / 150 ³⁾
Minimum corner spacing	c_1 / c_2 [mm]	125 / 190
Dowel group ⁴⁾		
Effect		Transverse + diagonal pull only central pull
Minimum axial spacing	s_{\min} [mm]	100 100
Minimum edge spacing	c_1 [mm]	250 125 / 150 ³⁾
Minimum clearance for dowel groups	a [mm]	750 600
Minimum corner spacing	c_1 / c_2 [mm]	250 / 375 125 / 190

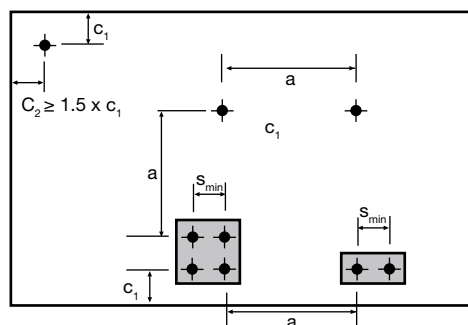
1) For known slab width and partial view of joints (e.g. roof surfaces), we consider a calibration of the joints to be permissible and equivalent to the visibility of joints

2) The necessary partial safety factors of the resistors and a partial safety factor $\gamma_F=1.4$ are taken into consideration

3) For reinforced slabs with a width ≤ 700 mm

4) The following applies to dowel groups from 2 or 4 dowels:

$$F_{\text{perm, group}} = 2 \cdot F_{\text{perm, single dowel}}$$



Wall and ceiling slabs

Multi-Monti screw anchor, hexagon head

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete 7.5 -10 - 12 - 14 and 16 mm approval no. ETA-05/0010 for galvanically zinc-plated steel.

European Technical Approval, Option 1, cracked concrete 7.5 - 10 and 12 mm approval no. ETA-05/0011 for stainless steel A4.

Building Standards Approval, approval no. Z-21.1-1503 (galvanized) and Z-21.1-1697 (stainless steel A4), 6 - 7.5 and 10 mm for anchoring light ceiling coverings and suspended ceilings in concrete.

Application: The Multi Monti screw anchors are used to fasten light to heavy objects in concrete. Suitable for non approval-related fasteners in many other materials such as brick, natural stone, solid brick and sand-lime brick. Main application areas include fasteners in all areas of housing technology, interior design, but also temporary fasteners such as shuttering props or core drills.

Properties: Multi-Monti screw anchors are based on a completely new operating principle. The threaded flanks undercut the concrete, giving rise to positive locking anchoring. Free of expansion pressure, resulting in small axial and edge spacing. No curing times, can be loaded immediately. Completely detachable. Short installation times, very economical, especially the comparably very inexpensive stainless steel design.

Push-through installation possible. Reusable for non approval-related, temporary installations such as shuttering props or core drills.

Advantages:

- no tightening torque required
- positive locking anchoring
- reusable with non approval-related anchorings
- setting and installation in one work step

Note: Clean borehole thoroughly.

The dimensions 7.5 x 45, 7.5 x 50, 10 x 60, 12 x 60 and 16 x 80 are not included in the ETA approval, but are (except for 12 x 60 and 12 x 80) covered by the Building Standards Approval Z-21.1-1503 or Z-21.1-1697.

Widths across flats Ø 7.5 mm = WAF 13, Ø 10 mm = WAF 16, Ø 12 mm = WAF 18, Ø 14 mm = WAF 21 mm, Ø 16 mm = WAF 24 mm.

Screw drive for countersunk and round head screws Ø 5 mm = TX 20, Ø 6 mm = TX 30, Ø 7.5 mm = TX 40.



galvanized

DG 2050

Item no.	Type	Ø x length	Hole Ø	Anchoring depth	Clamping range	Price per 100 pieces	Package contents
625317545	MMS-S 7.5/45*	7.5 x 45 mm	6 mm	45 mm	1 mm	•	100
625317550	MMS-S 7.5/50*	7.5 x 50 mm	6 mm	45 mm	5 mm	•	100
625317560	MMS-S 7.5/60	7.5 x 60 mm	6 mm	45/55 mm	15/5 mm	•	100
625317580	MMS-S 7.5/80	7.5 x 80 mm	6 mm	45/55 mm	35/25 mm	•	100
6253175100	MMS-S 7.5/100	7.5 x 100 mm	6 mm	45/55 mm	55/45 mm	•	100
6253175120	MMS-S 7.5/120	7.5 x 120 mm	6 mm	45/55 mm	75/65 mm	•	50
6253175140	MMS-S 7.5/140	7.5 x 140 mm	6 mm	45/55 mm	95/85 mm	•	50
625311060	MMS-S 10x60*	10 x 60 mm	8 mm	55 mm	5 mm	•	50
625311070	MMS-S 10x70/5	10 x 70 mm	8 mm	65 mm	5 mm	•	40
625311080	MMS-S 10x80/15	10 x 80 mm	8 mm	65 mm	15 mm	•	40
6253110100	MMS-S 10x100/35	10 x 100 mm	8 mm	65 mm	35 mm	•	25
6253110120	MMS-S 10x120/55	10 x 120 mm	8 mm	65 mm	55 mm	•	25
6253110140	MMS-S 10x140/75	10 x 140 mm	8 mm	65 mm	75 mm	•	25
6253110160	MMS-S 10x160/95	10 x 160 mm	8 mm	65 mm	95 mm	•	25
625311260	MMS-S 12x60*	12 x 60 mm	10 mm	55 mm	5 mm	•	25
625311280	MMS-S 12x80/5	12 x 80 mm	10 mm	75 mm	5 mm	•	25
6253112100	MMS-S 12x100/25	12 x 100 mm	10 mm	75 mm	25 mm	•	25
6253112120	MMS-S 12x120/45	12 x 120 mm	10 mm	75 mm	45 mm	•	25
6253112140	MMS-S 12x140/65	12 x 140 mm	10 mm	75 mm	65 mm	•	25
6253112160	MMS-S 12x160/85	12 x 160 mm	10 mm	75 mm	85 mm	•	25
625311680	MMS-S 16x80	16 x 80 mm	14 mm	70 mm	10 mm	•	25
6253116130	MMS-S 16x130/15	16 x 130 mm	14 mm	115 mm	15 mm	•	10

Continuation of Multi-Monti screw anchor, hexagon head



DG 2050

Stainless steel A4

Item no.	Type	Ø x length	Hole Ø	Anchoring depth	Clamping range	Price per 100 pieces	Package contents
625407550	MMS-S 7.5 x 50/65	7.5 x 50/65 mm	6 mm	55 mm	10 mm	•	50
625407560	MMS-S 7.5 x 75/10	7.5 x 75/10 mm	6 mm	65 mm	10 mm	•	50
625401070	MMS-S 10.0 x 85/10	10 x 85/10 mm	8 mm	75 mm	10 mm	•	25
625401080	MMS-S 10.0 x 95/20	10 x 95/20 mm	8 mm	75 mm	20 mm	•	25
625401280	MMS-S 12.0 x 100/10	12 x 100/10 mm	10 mm	90 mm	10 mm	•	25
6254012100	MMS-S 12.0 x 120/30	12 x 120/30 mm	10 mm	90 mm	30 mm	•	25

Multi-Monti screw anchor, countersunk head

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete 7.5 - 10 - 12 - 14 and 16 mm approval no. ETA-05/0010 for galvanically zinc-plated steel. European Technical Approval, Option 1, cracked concrete 7.5 - 10 and 12 mm approval no. ETA-05/0011 for stainless steel A4. Building Standards Approval, approval no. Z-21.1-1503 (galvanized) and Z-21.1-1697 (stainless steel A4), 6 - 7.5 and 10 mm for anchoring light ceiling coverings and suspended ceilings in concrete.

Application: The Multi Monti screw anchors are used to fasten light to heavy objects in concrete. Suitable for non approval-related fasteners in many other materials such as brick, natural stone, solid brick and sand-lime brick. Main application areas include fasteners in all areas of housing technology, interior design, but also temporary fasteners such as shuttering props or core drills.

Properties: Multi-Monti screw anchors are based on a completely new operating principle. The threaded flanks undercut the concrete, giving rise to positive locking anchoring. Free of expansion pressure, resulting in small axial and edge spacing. No curing times, can be loaded immediately. Completely detachable. Short installation times, very economical, especially the comparably very inexpensive stainless steel design. Push-through installation possible.

Advantages:

- no tightening torque required
- positive locking anchoring
- reusable with non approval-related anchorings
- setting and installation in one work step

Note: Clean borehole thoroughly.

The dimension 6 x 40 is not part of the approval. The dimensions 6 x 50 and 7.5 x 50 correspond to the Building Standards Approval Z-21.1-1503. All other dimensions comply with the approval ETA-05/0010 or ETA-05/0011.

Widths across flats Ø 7.5 mm = WAF 13, Ø 10 mm = WAF 16, Ø 12 mm = WAF 18, Ø 14 mm = WAF 21 mm, Ø 16 mm = WAF 24 mm. Screw drive for countersunk and round head screws Ø 5 mm = TX 20, Ø 6 mm = TX 30, Ø 7.5 mm = TX 40.



DG 2050

galvanized

Item no.	Type	Dimension	Borehole Ø	Anchoring depth	Clamping range	Price per 100 pieces	Package contents
625346040	HMS-F 6/40	6 x 40 mm	5 mm	30 mm	10 mm	•	200
625346050	MMS-F 6/50	6 x 50 mm	5 mm	45 mm	5 mm	•	100
625327550	MMS-F 7.5/50	7.5 x 50 mm	6 mm	45 mm	5 mm	•	100
625327560	MMS-F 7.5/60	7.5 x 60 mm	6 mm	45/55 mm	15/5 mm	•	100
625327580	MMS-F 7.5/80	7.5 x 80 mm	6 mm	45/55 mm	35/25 mm	•	100
6253275160	MMS-F 7.5/160	7.5 x 160 mm	6 mm	45/55 mm	115/105 mm	•	50

Continuation of Multi-Monti screw anchor, countersunk head



Stainless steel A4

DG 2050

Item no.	Type	Dimension	Borehole Ø	Anchoring depth	Clamping range	Price per 100 pieces	Package contents
625417560	MMS-F 7.5 x 75/10	7.5 x 75/10 mm	6 mm	65 mm	10 mm	•	50

Multi-Monti screw anchor, round head

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete 7.5 - 10 - 12 - 14 and 16 mm approval no. ETA-05/0010 for galvanically zinc-plated steel. European Technical Approval, Option 1, cracked concrete 7.5 - 10 and 12 mm approval no. ETA-05/0011 for stainless steel A4. Building Standards Approval, approval no. Z-21.1-1503 (galvanized) and Z-21.1-1697 (stainless steel A4), 6 - 7.5 and 10 mm for anchoring light ceiling coverings and suspended ceilings in concrete.

Application: The Multi Monti screw anchors are used to fasten light to heavy objects in concrete. Suitable for non approval-related fasteners in many other materials such as brick, natural stone, solid brick and sand-lime brick. Main application areas include fasteners in all areas of housing technology, interior design, but also temporary fasteners such as shuttering props or core drills.

Properties: Multi-Monti screw anchors are based on a completely new operating principle. The threaded flanks undercut the concrete, giving rise to positive locking anchoring. Free of expansion pressure, resulting in small axial and edge spacing. No curing times, can be loaded immediately. Completely detachable. Short installation times, very economical, especially the comparably very inexpensive stainless steel design. Push-through installation possible.

Advantages:

- no tightening torque required
- positive locking anchoring
- reusable with non approval-related anchorings
- setting and installation in one work step

Note: Clean borehole thoroughly.

The dimensions 5 x 30, 5 x 50 and 6 x 30 are not part of the approval.



galvanized

DG 2050

Item no.	Type	Dimension	Borehole Ø	Anchoring depth	Clamping range	Price per 100 pieces	Package contents
625335030	HMS-P 5/30*	5 x 30 mm	4 mm	30 mm	1 mm	•	200
625335050	HMS-P 5/50*	5 x 50 mm	4 mm	35 mm	15 mm	•	200
625336030	HMS-P 6/30*	6 x 30 mm	5 mm	30 mm	1 mm	•	200
625337550	MMS-P 7.5/50	7.5 x 50 mm	6 mm	45 mm	5 mm	•	100

Multi-Monti threshold anchors, hexagon head and washer

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete 12 mm, approval no. ETA-05/0010 for galvanically zinc-plated steel.

Application: For fastening thick wooden beams such as purlins.

Properties: Multi-Monti screw anchors are based on a completely new operating principle. The threaded flanks undercut the concrete, giving rise to positive locking anchoring. Free of expansion pressure, resulting in small axial and edge spacing. No curing times, can be loaded immediately. Completely detachable. Short installation times, very economical. Push-through installation possible.

Advantages:

- no tightening torque required
- positive locking anchoring
- reusable with non approval-related anchorings
- setting and installation in one work step

Note: Clean borehole thoroughly. Width across flats Ø 12 mm = WAF 18.



galvanized							DG 2050
Item no.	Type	Hole Ø in concrete	Anchoring depth	Clamping range	Price per 100 pieces	Package contents	
6253112180	MMS-S 12 x 180/105	10 mm	75 mm	105 mm	•	25	
6253112200	MMS-S 12 x 200/125	10 mm	75 mm	125 mm	•	25	
6253112240	MMS-S 12 x 240/165	10 mm	75 mm	165 mm	•	25	
6253112280	MMS-S 12 x 280/205	10 mm	75 mm	205 mm	•	25	
6253112320	MMS-S 12 x 320/245	10 mm	75 mm	245 mm	•	25	

Multi-Monti TC screw anchor

Approved by the building authorities: Building Standards Approval, cracked concrete 7.5 to 12 mm, approval no. Z-21.1-1879 for galvanically zinc-plated steel.

Application: The Multi-Monti TC screw anchors are used to fasten wooden beams or thresholds in concrete. Main application areas include fastening rafters in wooden construction.

Properties: Multi-Monti is based on a completely new operating principle. The threaded flanks undercut the concrete, giving rise to positive locking anchoring. Free of expansion pressure, resulting in small axial and edge spacing. No curing times, can be loaded immediately. Completely detachable. Short installation times because Multi Monti are set and installed in one work step. The TC screw anchor is countersunk in the wood. One screw length is therefore enough for many wood thicknesses.

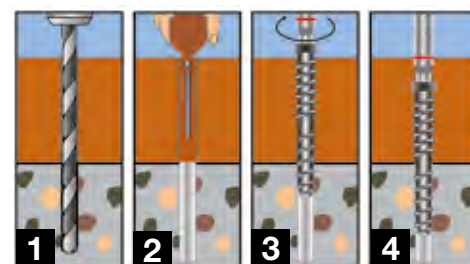
Advantages:

- no tightening torque required
- positive locking anchoring
- the proof of the TC is done via DIN 1052, resulting in significantly higher transverse loads because the bending can be ignored

Note: Clean borehole thoroughly. T setting tools are stipulated for setting the Multi-Monti TC screw anchors.



Installation sequence:



1. drilling 2. cleaning 3. and 4. screwing in

galvanized						DG 2050
Item no.	Type	Ø x length	Thickness of the fixture min/max	Price per 100 pieces	Package contents	
6284175100	MMS-TC 7.5 x 100	7.5 x 100 mm	40/150 mm	•	50	
6284110130	MMS-TC 10 x 130	10 x 130 mm	60/200 mm	•	25	
6284112160	MMS-TC 12 x 160	12 x 160 mm	80/300 mm	•	25	

Setting tool for Multi Monti TC screw anchor



Application: T setting tools for setting the Multi-Monti TC screw anchors.

Properties: There is a scale on the shaft for the required screw-in depth. The thickness of the fixture on the setting tool can be adjusted using a rubber ring, which guarantees the optimum screw-in depth.

Item no.	Type	suitable for	Price per piece	Package contents
6284275	T 30 x 138	MMC-TC 7.5 x 100	•	1
6284210	T 30 x 138	MMC-TC 10 x 130	•	1
6284212	T 50 x 260	MMS-TC 12 x 160	•	1



Fischer nail anchor FNA II with pan head



Approved by the building authorities: European Technical Approval, for (redundant) multi-fasteners in cracked concrete, galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529, approval number ETA-06/0175.

Application: The Fischer FNA II nail anchors are used to fasten suspended ceilings with loop wires, punch mounting strips or slotted steel straps, chains, etc. The longer designs are used to span non-structural plaster layers or insulations as well as for directly fastening battens or metal profiles in concrete.

Properties: Simple, very speedy installation by driving in with a hammer. No screwing required. Small bore diameter and low anchoring depths reduce installation times. Optical setting control - expanding nail is driven in flush when installed correctly.



galvanized

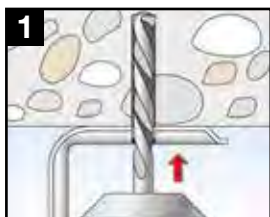
DG 2065

Item no.	Type	Hole Ø x drill depth, for push-through fittings	Minimum anchoring depth	Clamping range	Price per 100 pieces	Package contents
621035	FNA II 6/30/5	6 x 45 mm	30 mm	5 mm	•	100
6210330	FNA II 6/30/30	6 x 70 mm	30 mm	30 mm	•	50
6210350	FNA II 6/30/50	6 x 90 mm	30 mm	50 mm	•	50
6210370	FNA II 6/30/75	6 x 115 mm	30 mm	75 mm	•	50

Stainless steel A4

DG 2063

Item no.	Type	Hole Ø x drill depth, for push-through fittings	Minimum anchoring depth	Clamping range	Price per 100 pieces	Package contents
62101730	FNA II 6/30/5 A4	6 x 45 mm	30 mm	5 mm	•	50
6210430	FNA II 6/30/30 A4	6 x 70 mm	30 mm	30 mm	•	50



Fischer nail anchor FNA II with bolt and nut

Approved by the building authorities: European Technical Approval, for (redundant) multi-fasteners in cracked concrete, galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529, approval number ETA-06/0175.

Application: The Fischer FNA II nail anchors with external thread and flange nut can be used like the types with pan heads, but are often also used to fasten cable clamps.

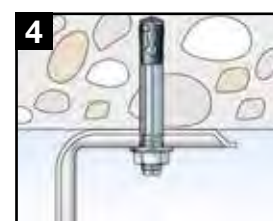
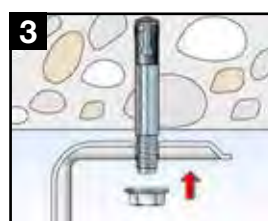
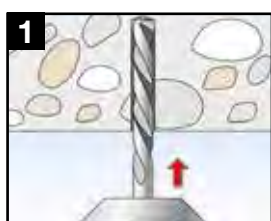
Properties: Simple, very speedy installation by driving in with a hammer. No screwing required. Small bore diameter and low anchoring depths reduce installation times. Optical setting control - expanding nail is driven in flush when installed correctly.



DG 2065

galvanized						
Item no.	Type	Connection thread	Hole Ø x drill depth, min.	Minimum anchoring depth	Price per 100 pieces	Package contents
62101630	FNA II 6/30M6/5	M 6	6 x 45 mm	30 mm	•	100

Stainless steel A4						
Item no.	Type	Connection thread	Hole Ø x drill depth, min.	Minimum anchoring depth	Price per 100 pieces	Package contents
621045	FNA II 6/30M6/5	M 6	6 x 45 mm	30 mm	•	100



Fischer FNA II Nail Anchor with hook/eyelet

Approved by the building authorities: European Technical Approval, for (redundant) multi-fasteners in cracked concrete, galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529, approval number ETA-06/0175.

Application: The Fischer FNA II nail anchors are used to fasten suspended ceilings with loop wires, punch mounting strips or slotted steel straps, chains, etc. The longer designs are used to span non-structural plaster layers or insulation.

Properties: The special operating principle makes simple impact installation possible. With optimized expansion clip that already ensures a hold once it is inserted into the borehole and prevents falling out for overhead installation. FNA II OE (eyelet) and H (hook) nail anchors are suitable for pre-positioned installation.

Advantages:

- short processing time thanks to simple impact installation
- simple installation thanks to extremely low anchoring depth
- optimum adjustment to the respective application by means of different head shapes



DG 2065

Item no.	Type	Type	Hole Ø x drill depth for pre-positioned assembly	Minimum anchoring depth	Price per 100 pieces	Package contents
62101825	FNA II 6/25 H	with hook	6 x 35 mm	25 mm	•	50
621018251	FNA II 6/25 OE	with eyelet	6 x 35 mm	25 mm	•	50

Continued on the next page

① Loads for FNA II nail anchor galv. zinc-plated / stainless steel A4 / highly corrosion-resistant steel C

Permissible loads¹⁾ of a single dowel for multi-fasteners⁴⁾ in cracked normal concrete (concrete tensile zone) of strength C20/25 (-B25) - C50/603 (-B55)

Type	Material	effective anchoring depth	minimum component thickness	max. installation torque	permissible load	necessary edge spacing for max. load	necessary axial spacing for max. load	minimum spacing while the load is simultaneously reduced	
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2/4)$ [kN]	c [mm]	s [mm]	min. axial spacing	min. edge spacing
FNA II 6 x 25	gzp	25	80	-	1.4	100 for $s \geq 200$	100 for $c \geq 200$	100	50
FNA II 6 x 30	gzp	30	80	-	2.4	100 for $s \geq 200$	100 for $c \geq 200$	100	50
	A4								
	C								
FNA 6 x 25 M6	gzp	25	80	4	1.4	100 for $s \geq 200$	100 for $c \geq 200$	100	50
FNA 6 x 30 M6	gzp	30	80	4	2.4	100 for $s \geq 200$	100 for $c \geq 200$	100	50
	A4								
	C								
FNA II 6 x 30 M8	gzp	30	80	4	2.4	100 for $s \geq 200$	100 for $c \geq 200$	100	50
FNA II 6 x 25 OE	gzp	25	80	-	0.7	100 for $s \geq 200$	100 for $c \geq 200$	100	50

The entire ETA - 06/0175 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $y_F = 1.4$ are taken into consideration.

2) Valid for tensile load, transverse load and diagonal pull at any angle. For transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups), see approval.

3) See approval for concrete strength C 12/15.

4) A multi-fastener according to ETAG 001 part 6 is defined by at least 3 fixing points with at least one dowel each and a permissible load per fixing point of 1.4 kN or by at least 4 fixing points with at least one dowel each and a permissible load per fixing point of 2.1 kN.

MKT N-K nail anchor with pan head

Approved by the building authorities: European Technical Approval, for (redundant) multi-fasteners in cracked concrete, galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529, approval number ETA-11/0240.

Application: The MKT N nail anchors are used to fasten suspended ceilings with vernier hangers, loop wires, punch mounting strips or slotted steel straps, chains, etc. The longer designs are used to span non-structural plaster layers or insulations as well as for directly fastening battens or metal profiles in concrete.

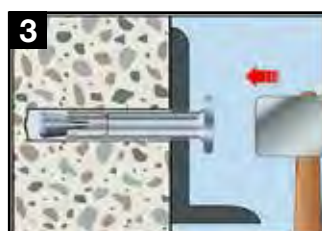
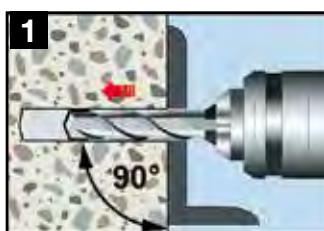
Properties: When loaded the installed MKT N nail anchor expands on its own. The cone is pulled into the expansion clip and braces against the borehole wall.

Advantages:

- quick and simple installation: Insertion is sufficient
- reduced installation times: thanks to small bore diameters and low anchoring depths
- optical setting control: Expanding nail is driven in flush when installed correctly



galvanized							DG 2065	
Item no.	Type	Hole Ø	Min. depth of drilled holes	Minimum anchoring depth	Clamping range, max.	Price per 100 pieces	Package contents	
6289465	NK 6-5-10/44	6 mm	35 mm	31 mm	10 mm	•	200	
62894630	NK 6-30-35/69	6 mm	35 mm	31 mm	35 mm	•	200	
62894650	NK 6-50-55/89	6 mm	35 mm	31 mm	55 mm	•	100	



MKT Nail Anchor N-M



Approved by the building authorities: European Technical Approval, for (redundant) multi-fasteners in cracked concrete, galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529, approval number ETA-11/0240.

Application: The MKT N nail anchor is mainly used to fasten suspended ceilings and other building components with threaded rods, loop wires, punch mounting strips or slotted steel straps, chains, etc. The longer design is used to span non-structural plaster layers or insulation.

Properties: When loaded the installed MKT N nail anchor expands on its own. The cone is pulled into the expansion clip and braces against the borehole wall. N-M nail anchors with M 8 and M 10 graded thread. Thanks to the graded thread, both M 8 and M 10 threaded rods can be processed with a dowel.

Advantages:

- only one dowel for M 8 and M 10 threaded rods for nail anchor N-M with graded thread
- quick and simple installation: Insertion is sufficient
- reduced installation times: thanks to small bore diameters and low anchoring depths



DG 2065

Item no.	Type	Hole Ø	Min. depth of drilled holes	Minimum anchoring depth	Clamping range	Price per 100 pieces	Package contents
62896625	N-M 6-25 M8/10	6 mm	35 mm	25 mm	Variable with threaded rods M8/M10	•	100
62896630	N-M 6-30 M8/10	6 mm	40 mm	30 mm	Variable with threaded rods M8/M10	•	100

① Loads for MKT N / N-K / N-M nail anchors galv. zinc-plated / stainless steel A4 HCR

Permissible loads ¹⁾ of a fastening point ⁴⁾ for multi-fasteners in cracked and non-cracked concrete of strength C20/25 ³⁾ (~B25)										
Type	Material	effective anchoring depth	minimum component thickness	max. installation torque	Optimized for maximum load			Optimized for minimum edge spacing		
					permissible max. load	necessary edge spacing for max. load	necessary axial distance to the next fastening point for max. load	permissible max. load	necessary edge spacing for max. load	necessary axial distance to the next fastening point for max. load
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$F_{perm}^{2)}$ [kN]	c [mm]	s [mm]	$F_{perm}^{2)}$ [kN]	c [mm]	s [mm]
N her 25 mm	gzp	25	80	4	2.14	100	200	0.95	50	100
N-K / N-M her 25 mm	gzp	25	80	-	2.14 ⁵⁾	100	200	0.95	50	100
N her 30 mm	gzp A4 HCR	30	80	4	2.81	100	200	1.19	50	100
N-K / N-M her 30 mm	gzp A4 HCR	30	80	-	2.81 ⁵⁾	100	200	1.19	50	100

The entire ETA - 11/0240 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) Valid for tensile load, transverse load and diagonal pull at any angle. See approval for transverse loads with a lever arm (bending). The maximum permissible load per fastening point can, depending on national regulations, be below the permissible load of the dowel. The permissible loads per fastening point are governed for the respective countries in ETAG 001, part 6.
- 3) See approval for concrete strength C 12/15.
- 4) A fastening point can be:
 - single dowel
 - pair of dowels with axial spacing $s \geq 50$ mm or
 - group of four with $s \geq 50$ mm
If the axial spacing of the dowel in a fastening point is greater or the same as the corresponding axial distance between the fastening points, the characteristic resistors for each individual dowel apply.
- 5) For the design N-M, proof must be provided for a transverse load with a lever arm if a transverse force is present

Toge ceiling dowel TD-N

Approved by the building authorities: European Technical Approval, for (redundant) multi-fasteners in cracked concrete, approval no. ETA-06/0259, galvanically zinc-plated steel.

Application: The Toge TD-N ceiling dowels are used to fasten suspended ceilings with vernier hangers, loop wires, punch mounting strips or slotted steel straps, chains, etc. The longer design is for spanning non-structural plaster layers or directly fastening battens in concrete.

Properties: Simple, very speedy installation by driving in with a hammer. Small bore diameter and low anchoring depths reduce installation times. No screwing required. Optical setting control, expanding nail is driven in flush when installed correctly.

Note: Do not accidentally hit the expansion wedge when driving in the ceiling dowel because it will cause the dowel to expand prematurely.



galvanized

DG 2063

Item no.	Type	Hole Ø x drill depth, min.	Anchoring depth	Clamping range	Price per 100 pieces	Package contents
624221	TD-N 6/35	6 x 40 mm	32 mm	4.5 mm	•	100
62422665	TD-N 6/65	6 x 40 mm	32 mm	35 mm	•	100

① Loads for ceiling nail TD-N 6 galv. zinc-plated

Permissible loads¹⁾ of a single dowel for multi-fasteners³⁾ non-structural systems in cracked normal concrete (concrete tensile zone) of strength C20/25 (~B25)

Type	effective anchoring depth	minimum component thickness	permissible load	necessary edge spacing for permissible load	necessary axial spacing for permissible load
	h_{ef} [mm]	h_{min} [mm]	F_{perm} ²⁾ [kN]	$c_{cr, N}$ [mm]	$s_{cr, N}$ [mm]
TDN 6	32	80	2.4	150	200

The entire ETA - 06/0259 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) Valid for tensile loads, transverse loads and diagonal pull at any angle. See approval for transverse loads with a lever arm (bending).

3) A multi-fastener according to ETAG 001 part 6 is defined by at least 3 fixing points with at least one dowel each and a permissible load per fixing point of 1.4 kN or by at least 4 fixing points with at least one dowel each and a permissible load per fixing point of 2.1 kN.

FAKKT injection system type VMU 345 and 300

FAKKT

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M8 to M30, approval no. ETA-06/0120 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Approval Z-21.3-1804, masonry, solid and perforated masonry M 8 - M12 (with FAKKT internally threaded anchor rods also in M6 + M8) for galvanically zinc-plated steel and stainless steel A4.

Application: The FAKKT VMU injection system is suitable for fastening medium-weight to heavy objects in masonry, solid and perforated brick, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main application areas include metal structures, facade substructures and fasteners in all areas of housing technology. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: Styrene-free vinyl ester resin mortar comprising the two components resin and hardener. The FAKKT injection mortar is available in 2 different cartridge systems.

Shuttle cartridge VMU 345: For these cartridges, the hardener is attached in a separate tube on the outside. A gun with 2 plunger item no. 620354 is required. Every cartridge comes with 1 mixing tubes.

Coaxial cartridge VMU 300: This cartridge contains 2 separated hose bags with mortar and hardener. A powerful customary silicone application gun, e.g. item no. 620355, suffices for dispensing. Every cartridge comes with 1 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1

Note: The FAKKT injection mortar is only permitted in conjunction with VMU and V-A anchor rods, threaded rods with factory test 3.1 and for use in perforated masonry with VMU-SH sieve sleeves. Offset VMU-AH anchor rods are only approved for use in VMU-SH sieve sleeves in perforated masonry. The anchor rods and sieve sleeves are not included in the price of the FAKKT injection mortar. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.



DG 2136

Item no.	Type	Contents	Price per piece	Package contents
62678345	Shuttle cartridge VMU 345	345 ml	•	1
62680300	Coaxial cartridge VMU 300	300 ml	•	1

Item accessories

Item no.	Description	Price
620354	MKT application gun	•



Application in perforated bricks



Application in solid masonry

FAKKT injection mortar VMU Set

FAKKT

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M8 to M30, approval no. ETA-06/0120 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Approval Z-21.3-1804, masonry, solid and perforated masonry M 8 - M12 (with FAKKT internally threaded anchor rods also in M6 + M8) for galvanically zinc-plated steel and stainless steel A4.

Application: The FAKKT VMU injection mortar is suitable for fastening medium-weight to heavy objects in masonry, solid and perforated brick, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main application areas include metal structures, facade substructures and fasteners in all areas of housing technology.

Properties: Practical stacking boxes optionally with 20 cartridges or 12 cartridges and an application gun (VM-P standard). Each cartridge comes with 2 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
 - also approved for the use of customary threaded rods with factory test 3.1
- Note:** The FAKKT injection mortar is only permitted in conjunction with VMU and V-A anchor rods, threaded rods with factory test 3.1 and for use in perforated masonry with VMU-SH sieve sleeves. Offset VMU-AH anchor rods are only approved for use in VMU-SH sieve sleeves in perforated masonry. The anchor rods and sieve sleeves are not included in the price of the FAKKT injection mortar. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.



DG 2132

Item no.	Type	Contents	Price per piece	Package contents
626781	Shuttle cartridge VMU 345	20 Cartridges	•	1
626801	Coaxial cartridge VMU 300	20 Cartridges	•	1
628912	Shuttle cartridge VMU 345	20 Cartridges + 1 gun	•	1
626783	Shuttle cartridge VMU 345	12 Cartridges + 1 gun	•	1
626803	Coaxial cartridge VMU 300	12 Cartridges + 1 gun	•	1

Mixing tube for FAKKT injection mortar VMU 300 + 345 ml

FAKKT

Application: Suitable for FAKKT VMU injection system and MKT VMZ injection mortar system. The mixing tube serves as a nozzle for the injection mortar cartridges. The mixing tube must be replaced in the event of long work interruptions.



Item no.	Price per piece	Package contents
620374	•	1

Material requirement per cartridge 300 / 345 ml in solid brick without sieve sleeve				
	M 8	M 10	M 12	M 16
approx. boreholes	50 / 58	35 / 41	24 / 28	15 / 17

Material requirement per cartridge 300 / 345 ml in perforated brick with sieve sleeve			
	M 8	M 10	M 12
approx. boreholes	17 / 20	12 / 14	12 / 14

Temperature in the borehole	Process- ing time	Curing time in a dry substrate
-5 °C	90 min	330 min
-4 °C to -1 °C	45 min	330 min
0 °C to +4 °C	20 min	180 min
+5 °C to +9 °C	12 min	120 min
+10 °C to +19 °C	6 min	80 min
+20 °C to +29 °C	4 min	45 min
+30 °C to +34 °C	2 min	25 min
+35 °C to 39 °C	1.4 min	20 min
+40 °C	1.4 min	15 min

The mortar requires twice as much time for complete curing in damp substrates.

FAKKT injection mortar VMU 420 XL fix

FAKKT

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 8 to M 30, approval no. ETA-06/0120 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Approval Z-21.3-1804, masonry, solid and perforated masonry M 8 - M 12 (with FAKKT internally threaded anchor rods also in M 6 + M 8) for galvanically zinc-plated steel and stainless steel A4.

Application: The FAKKT VMU injection mortar is suitable for fastening medium-weight to heavy objects in masonry, solid and perforated brick, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main application areas include metal structures, facade substructures and fasteners in all areas of housing technology.

Properties: The FAKKT VMU 420 XL cartridges, with 420 ml, have significantly more content than comparable mortars. For easier application, the mixing tube, in contrast with customary mixers, only has 6 spirals through which the tough mortar has to be pressed. For further properties, see FAKKT VMU 300/345.

Advantages:

- less replacement of cartridges thanks to more content
- tangibly faster and less tiring application
- optimum price-performance ratio
- also approved for the use of customary threaded rods with factory test 3.1.

Note: The FAKKT injection mortar is only permitted in conjunction with VMU and V-A anchor rods, threaded rods with factory test 3.1 and for use in perforated masonry with VMU-SH sieve sleeves. Offset VMU-AH anchor rods are only approved for use in VMU-SH sieve sleeves in perforated masonry. The anchor rods and sieve sleeves are not included in the price of the FAKKT injection mortar. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary. Every cartridge comes with one mixing tube.

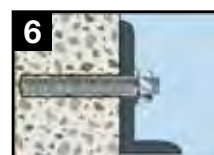
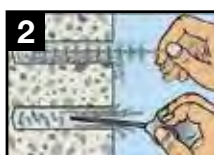
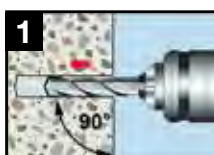


DG 2136

Item no.	Type	Contents	Price per piece	Package contents
62678420	VMU 420 XL fix	Coaxial cartridge 420 ml	•	1



Application in perforated bricks



Application in solid masonry

FAKKT injection mortar VMU 420 XL fix Set

FAKKT

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 8 to M 30, approval no. ETA-06/0120 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Approval Z-21.3-1804, masonry, solid and perforated masonry M 8 - M 12 (with FAKKT internally threaded anchor rods also in M 6 + M 8) for galvanically zinc-plated steel and stainless steel A4.

Application: The FAKKT VMU injection mortar is suitable for fastening medium-weight to heavy objects in masonry, solid and perforated brick, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main application areas include metal structures, facade substructures and fasteners in all areas of housing technology.

Properties: Practical stacking boxes with 8 cartridges and an application gun (VM-P standard). Each cartridge comes with 2 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Scope of supply: 8 cartridges, 1 gun type standard and 16 mixing tubes.

Advantages:

- less replacement of cartridges thanks to more content
- tangibly faster and less tiring application
- optimum price-performance ratio
- also approved for the use of customary threaded rods with factory test 3.1



DG 2132

Item no.	Type	Price per piece	Package contents
62678420	VMU 420 XL fix Set	•	1

Mixing tube for FAKKT injection mortar VMU 420 XL fix

FAKKT

Application: The mixing tube serves as a nozzle for the injection mortar. The mixing tube must be replaced in the event of long work interruptions.

Item no.	Price per piece	Package contents
620378	•	1



Material requirement per cartridge 420 ml in solid brick without sieve sleeve				
	M 8	M 10	M 12	M 16
approx. boreholes	69	49	33	20

Material requirement per cartridge 420 ml in perforated brick without sieve sleeve			
	M 8	M 10	M 12
approx. boreholes	24	17	17

Temperature in the borehole	Process- ing time	Curing time in a dry substrate
-5 °C	90 min	330 min
-4 °C to -1 °C	45 min	330 min
0 °C to +4 °C	20 min	180 min
+5 °C to +9 °C	12 min	120 min
+10 °C to +19 °C	6 min	80 min
+20 °C to +29 °C	4 min	45 min
+30 °C to +34 °C	2 min	25 min
+35 °C to 39 °C	1.4 min	20 min
+40 °C	1.4 min	15 min

The mortar requires twice as much time for complete curing in damp substrates.

Continued on the next page

i Loads for FAKKT injection system

FAKKT

FAKKT injection system in masonry (Z-21.3-1804)		VMU-A			VMU-AH	VMU-IG / VMU-IGH	
		M 8	M 10	M 12	M 12	M 6	M 8
Effective anchoring depth	h_{ef} [mm]	80	90	93	93	93	93
Permissible loads for pull, transverse pull and diagonal pull at any angle							
Solid bricks Mz12	[kN]				1.7		
Solid sand-lime brick KS 12	[kN]				1.7		
Hollow brick HLz 4 / 6 / 12	[kN]				0.6 / 0.8 / 1.0 ¹⁾		
Porous sand-lime brick KSL 4 / 6 / 12	[kN]				0.6 / 0.8 / 1.4 ^{1) 2)}		
Hollow lightweight concrete brick Hbl 2 / 4	[kN]				0.5 / 0.8 ³⁾		
Hollow concrete blocks Hbn 4	[kN]				0.8 ⁴⁾		
Permissible bending moment M_{perm}							
Steel, galvanically zinc-plated (5.8)	[Nm]	11.0	21.0	37.0	37.0	4.4	11.0
Component dimensions and installation parameters							
Axial spacing (dowel group) ¹⁾	$a \geq$ [mm]				100 (200) ²⁾		
Minimum axial spacing	$\min a$ [mm]				50 ³⁾		
Minimum intermediate distance (single dowel)	a_z [mm]				250		
Edge spacing	$a_r \geq$ [mm]				200 (250) ⁴⁾		
Edge spacing under special conditions	a_r [mm]				50 (60) ⁴⁾		
Minimum component thickness	h_{min} [mm]				110		
Through hole in the component to be connected	$d_f \leq$ [mm]	9	12	14	14	7	9
Torque during anchoring	T_{inst} [Nm]				8 ⁵⁾		
Cleaning brush diameter	d_b [mm]				18		
Boreholes per cartridge 300/345 ml with sieve sleeve	[Piece]	17/20	12/14	-	12/14	12/14	12/14
Boreholes per cartridge 300/345 ml without sieve sleeve	[Piece]	50/58	35/41	26/31	-	35/41	26/31

¹⁾ The values apply to the rotary drilling method. In the percussion drilling method, the values are to be reduced in compliance with the approval.

²⁾ external supports ≥ 30 mm

³⁾ The spacing may fall below the axial spacing a for dowel pairs and groups of four up to the minimum distance if the permissible loads are reduced.

This does not apply to hollow brick and hollow block masonry.

The maximum loads per individual block may not be exceeded.

⁴⁾ The value in parentheses applies to hollow brick and hollow block masonry.

⁵⁾ min a does not apply to hollow brick and hollow block masonry.

⁶⁾ The value in parentheses applies to use in solid brick.

⁷⁾ 2 Nm for a non-adjacent anchoring plate on the anchoring base.

FAKKT injection system in concrete (ETA-06/0120)		M 8 ¹⁾	M 10	M 12	M 16	M 20 ¹⁾	M 24 ¹⁾	M 30 ¹⁾
Effective anchoring depth	h_{ef} [mm]	80	90	110	125	170	210	270
Permissible central tensile load of a single dowel without edge influence N_{perm} , i.e. edge spacing $c \geq 1.5h_{ef}$ and axial spacing $s \geq 3h_{ef}$								
Non-cracked concrete C 20/25	[kN]	7.6	11.9	16.7	23.8	45.2	54.8	81.0
Permissible transverse force of a single dowel without edge influence V_{perm} , i.e. edge spacing $c \geq 10h_{ef}$ and axial spacing $s \geq 3h_{ef}$								
Steel, galvanically zinc-plated (5.8)	[kN]	5.1	8.6	12.0	22.3	34.9	50.3	80.0
Steel, galvanically zinc-plated (8.8)	[kN]	8.6	13.1	19.4	36.0	56.0	80.6	128.0
Permissible bending moment M_{perm}								
Steel, galvanically zinc-plated (5.8)	[kN]	10.9	21.1	37.1	94.3	185.7	320.6	642.3
Steel, galvanically zinc-plated (8.8)	[kN]	17.1	34.3	60.0	152.0	296.6	513.1	1.028.0
Component dimensions and installation parameters								
Characteristic axial spacing	$s_{cr,N}$ [mm]	160	180	220	250	340	420	540
Characteristic edge spacing	$c_{cr,N}$ [mm]	80	90	110	125	170	210	270
Minimum axial spacing	s_{min} [mm]	40	45	55	65	85	105	135
Minimum edge spacing	c_{min} [mm]	40	45	55	65	85	105	135
Minimum component thickness	h_{min} [mm]	100	130	160	200	220	280	350
Reduced minimum component thickness	$h_{min,red}$ [mm]	-	120	140	160	-	-	-
Through hole in the component to be connected	$d_f \leq$ [mm]	9	12	14	18	22	26	33
Torque during anchoring	T_{inst} [Nm]	10	20	40	60	120	150	300

Anchor rod for FAKKT VMU external thread injection system

FAKKT

Application: In conjunction with the FAKKT and MKT VMU injection mortar, the VMU-A anchor rods are suited for fastening medium-weight to heavy objects in masonry, solid and perforated masonry, sand-lime solid and perforated bricks and in non-cracked concrete. Main application areas include metal structures, facade substructures and fasteners in all areas of housing technology.

Properties: Anchoring without expansion pressure in concrete, solid and perforated bricks results in conjunction with FAKKT VMU injection mortar for small axial and edge spacing.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1



galvanized

DG 2147

Item no.	Type	Dimension	Clamping range	Application note	Price per 100 pieces	Package contents
62695810	VMU-A 8-10/100	M 8/100 mm	10 mm	1	•	10
62695820	VMU-A 8-20/110	M 8/110 mm	20 mm	1	•	10
62695840	VMU-A 8-40/130	M 8/130 mm	40 mm	1	•	10
626951010	VMU-A 10-10/110	M 10/110 mm	10 mm	1	•	10
626951030	VMU-A 10-30/130	M 10/130 mm	30 mm	1	•	10
626951050	VMU-A 10-50/150	M 10/150 mm	50 mm	1	•	10
626951065	VMU-A 10-65/165	M 10/165 mm	65 mm	1	•	10
626951090	VMU-A 10-90/190	M 10/190 mm	90 mm	1	•	10
6269510160	VMU-A 10-160/260	M 10/260 mm	160 mm	1	•	10
626951215	VMU-A 12-15/120	M 12/120 mm	15 mm	2	•	10
626951225	VMU-A 12-25/130	M 12/130 mm	25 mm	2	•	10
626951250	VMU-A 12-50/155	M 12/155 mm	50 mm	2	•	10
626951280	VMU-A 12-80/185	M 12/185 mm	80 mm	2	•	10
6269512120	VMU-A 12-120/225	M 12/225 mm	120 mm	2	•	10
6269512160	VMU-A 12-160/265	M 12/265 mm	160 mm	2	•	10
627021210	VMU-A 12-10/135	M 12/135 mm	10 mm	3	•	10
627021230	VMU-A 12-30/155	M 12/155 mm	30 mm	3	•	10
627021250	VMU-A 12-50/175	M 12/175 mm	50 mm	3	•	10
627021285	VMU-A 12-85/210	M 12/210 mm	85 mm	3	•	10
6270212125	VMU-A 12-125/250	M 12/250 mm	125 mm	3	•	10
6270212175	VMU-A 12-175/300	M 12/300 mm	175 mm	3	•	10
626961215	VMU-AH 12-15/120	M 12/120 mm	15 mm	4	•	10
626961225	VMU-AH 12-25/130	M 12/130 mm	25 mm	4	•	10
626961250	VMU-AH 12-50/155	M 12/155 mm	50 mm	4	•	10
626951615	VMU-A 16-15/160	M 16/160 mm	15 mm	5	•	10
626951630	VMU-A 16-30/175	M 16/175 mm	30 mm	5	•	10
626951660	VMU-A 16-60/205	M 16/205 mm	60 mm	5	•	10
626951690	VMU-A 16-90/235	M 16/235 mm	90 mm	5	•	10
6269516155	VMU-A 16-155/300	M 16/300 mm	155 mm	5	•	10

1) According to approval, these anchor rods are for non-cracked concrete and solid masonry without sieve sleeves as well as for perforated masonry with sieve sleeves.

2) According to approval, these anchor rods are for solid masonry without sieve sleeves.

3) According to approval, these anchor rods are for non-cracked concrete without sieve sleeves.

4) These anchor rods have offset shafts and are for perforated masonry with sieve sleeves according to approval.

5) According to approval, these anchor rods are for non-cracked concrete.

Continuation of anchor rod for FAKKT VMU external thread injection system

Stainless steel A4

DG 2154

Item no.	Type	Dimension	Clamping range	Application note	Price per. 100 pieces	Package contents
62697810	VMU-A 8-10/100	M 8/100 mm	10 mm	1	•	10
62697820	VMU-A 8-20/110	M 8/110 mm	20 mm	1	•	10
62697840	VMU-A 8-40/130	M 8/130 mm	40 mm	1	•	10
626971010	VMU-A 10-10/110	M 10/110 mm	10 mm	1	•	10
626971030	VMU-A 10-30/130	M 10/130 mm	30 mm	1	•	10
626971050	VMU-A 10-50/150	M 10/150 mm	50 mm	1	•	10
626971065	VMU-A 10-65/165	M 10/165 mm	65 mm	1	•	10
626971090	VMU-A 10-90/190	M 10/190 mm	90 mm	1	•	10
6269710160	VMU-A 10-160/260	M 10/260 mm	160 mm	1	•	10
626971215	VMU-A 12-15/120	M 12/120 mm	15 mm	2	•	10
626971225	VMU-A 12-25/130	M 12/130 mm	25 mm	2	•	10
626971250	VMU-A 12-50/155	M 12/155 mm	50 mm	2	•	10
627031210	VMU-A 12-10/135	M 12/135 mm	10 mm	3	•	10
627031230	VMU-A 12-30/155	M 12/155 mm	30 mm	3	•	10
627031250	VMU-A 12-50/175	M 12/175 mm	50 mm	3	•	10
627031285	VMU-A 12-85/210	M 12/210 mm	85 mm	3	•	10
6270312125	VMU-A 12-125/250	M 12/250 mm	125 mm	3	•	10
6270312175	VMU-A 12-175/300	M 12/300 mm	175 mm	3	•	10
626981215	VMU-AH 12-15/120	M 12/120 mm	15 mm	4	•	10
626981225	VMU-AH 12-25/130	M 12/130 mm	25 mm	4	•	10
626981250	VMU-AH 12-50/155	M 12/155 mm	50 mm	4	•	10
626971615	VMU-A 16-15/160	M 16/160 mm	15 mm	5	•	10
626971630	VMU-A 16-30/175	M 16/175 mm	30 mm	5	•	10
626971660	VMU-A 16-60/205	M 16/205 mm	60 mm	5	•	10
626971690	VMU-A 16-90/235	M 16/235 mm	90 mm	5	•	10
6269716155	VMU-A 16-155/300	M 16/300 mm	155 mm	5	•	10

- 1) According to approval, these anchor rods are for non-cracked concrete and solid masonry without sieve sleeves as well as for perforated masonry with sieve sleeves.
- 2) According to approval, these anchor rods are for solid masonry without sieve sleeves.
- 3) According to approval, these anchor rods are for non-cracked concrete without sieve sleeves.
- 4) These anchor rods have offset shafts and are for perforated masonry with sieve sleeves according to approval.
- 5) According to approval, these anchor rods are for non-cracked concrete.

Anchor rods for Fakkt VMU external thread injection system

FAKKT

Fakkt VMU anchor rods zinc-plated and stainless steel for use in non-cracked concrete, solid and perforated brick masonry.

Type	Borehole Ø x depth in concrete without sieve sleeves mm	Borehole Ø x depth in solid brick masonry without sieve sleeves mm	Borehole Ø x depth in perforated brick with sieve sleeves mm	Sieve sleeves
VMU-A 8-10/100	10 x 80	10 x 85	14 x 105	VMU-SH 14 x 100
VMU-A 8-20/110	10 x 80	10 x 85	14 x 105	VMU-SH 14 x 100
VMU-A 8-40/130	10 x 80	10 x 85	14 x 105	VMU-SH 14 x 100
VMU-A 10-10/110	12 x 90	12 x 95	16 x 105	VMU-SH 16 x 100
VMU-A 10-30/130	12 x 90	12 x 95	16 x 105	VMU-SH 16 x 100
VMU-A 10-50/150	12 x 90	12 x 95	16 x 105	VMU-SH 16 x 100
VMU-A 10-65/165	12 x 90	12 x 95	16 x 105	VMU-SH 16 x 100
VMU-A 10-90/190	12 x 90	12 x 95	16 x 105	VMU-SH 16 x 100
VMU-A 10-160/260	12 x 90	12 x 95	16 x 105	VMU-SH 16 x 100
VMU-A 12-15/120		14 x 98		
VMU-A 12-25/130		14 x 98		
VMU-A 12-50/155		14 x 98		
VMU-A 12-80/185		14 x 98		
VMU-A 12-120/225		14 x 98		
VMU-A 12-160/265		14 x 98		
VMU-A 12-10/135	14 x 110			
VMU-A 12-30/155	14 x 110			
VMU-A 12-50/175	14 x 110			
VMU-A 12-85/210	14 x 110			
VMU-A 12-125/250	14 x 110			
VMU-A 12-175/300	14 x 110			
VMU-AH 12-15/120			16 x 105	VMU-SH 16 x 100
VMU-AH 12-25/130			16 x 105	VMU-SH 16 x 100
VMU-AH 12-50/155			16 x 105	VMU-SH 16 x 100
VMU-A 16-15/160	18 x 125			
VMU-A 16-30/175	18 x 125			
VMU-A 16-60/205	18 x 125			
VMU-A 16-90/235	18 x 125			
VMU-A 16-155/300	18 x 125			

Anchor rod for FAKKT VMU internal thread injection system

FAKKT

Application: In conjunction with the FAKKT and MKT VMU injection mortar, the VMU-A anchor rods are suited for fastening medium-weight to heavy objects in masonry, solid and perforated masonry, sand-lime solid and perforated bricks and in non-cracked concrete. Main application areas include metal structures, facade substructures and fasteners in all areas of housing technology.

Properties: Anchoring without expansion pressure in concrete, solid and perforated bricks results in conjunction with FAKKT VMU injection mortar for small axial and edge spacing.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1



galvanized

DG 2167

Item no.	Type	Internal thread	Outside Ø x length	Screw-in depth min./ max.	Borehole Ø x depth in concrete and solid masonry without sieve sleeve	Borehole Ø x depth in perforated masonry with sieve sleeves	Sieve sleeves	Price per 100 pieces	Pack- age con- tents
626996	VMU-IG M 6	M 6	10 x 93 mm	8/20 mm	12 x 98 mm	-	-	•	10
626998	VMU-IG M 8	M 8	12 x 93 mm	8/20 mm	14 x 98 mm	-	-	•	10
627006	VMU-IGH M 6	M 6	12 x 93 mm	8/20 mm	-	16 x 105 mm	VMU-SH 16 x 100	•	10
627008	VMU-IGH M 8	M 8	12 x 93 mm	8/20 mm	-	16 x 105 mm	VMU-SH 16 x 100	•	10



Stainless steel A4

DG 2167

Item no.	Type	Internal thread	Outside Ø x length	Screw-in depth min./ max.	Borehole Ø x depth in concrete and solid masonry without sieve sleeve	Borehole Ø x depth in perforated masonry with sieve sleeves	Sieve sleeves	Price per 100 pieces	Pack- age con- tents
627016	VMU-IG M 6	M 6	10 x 93 mm	8/20 mm	12 x 98 mm	-	-	•	10
627018	VMU-IG M 8	M 8	12 x 93 mm	8/20 mm	14 x 98 mm	-	-	•	10
627026	VMU-IGH M 6	M 6	12 x 93 mm	8/20 mm	-	16 x 105 mm	VMU-SH 16 x 100	•	10
627028	VMU-IGH M 8	M 8	12 x 93 mm	8/20 mm	-	16 x 105 mm	VMU-SH 16 x 100	•	10

Internally threaded sleeves are not included in the approval for non-cracked concrete.

VMU-SH sieve sleeve

Approved by the building authorities: Approved in conjunction with FAKKT and MKT VMU injection mortar, VMU-A and VMU-AH anchor rods for use in perforated brick.

Application: The MKT VM-SH sieve sleeves are used when FAKKT and MKT VMU injection mortar is used in perforated brick.

Properties: MKT VMU-SH sieve sleeves prevent the mortar from moving into the chambers of the perforated masonry.

Installation instructions: The sieve sleeve is filled from the anchor base. The mixing tube is slowly pulled out of the anchor sleeve during dispensing. Please refer to the information for the FAKKT VMU injection mortar for the filling quantity.



DG 2173

Item no.	Type	Borehole Ø x depth	for anchor rods	Price per 100 pieces	Package contents
6270414	VMU-SH 14 x 100	14 x 105 mm	M 8	•	10
6270416	VMU-SH 16 x 100	16 x 105 mm	M 10 - M 12 IG M6 - IG M8	•	10

Sieve sleeve type VM-SH, plastic

Application: The MKT VM-SH sieve sleeves are used when FAKKT and MKT VMU injection mortar is used in perforated brick. They are not included in the approval.

Properties: The VM-SH sieve sleeves prevent the mortar from moving into the chambers of the perforated masonry.

Installation instructions: The sieve sleeve is filled from the anchor base. The mixing tube is slowly pulled out of the anchor sleeve during dispensing. Please refer to the information for the FAKKT VMU injection mortar for the filling quantity. When using M12 anchor rods, the insert, which is to prevent mortar from flowing out, must be removed.



DG 2174

Item no.	Type	Borehole Ø x depth	for anchor rods	Price per 100 pieces	Package contents
620361250	VM-SH 12x50	13 x 55 mm	M 6 - M 8	•	10
620361685	VM-SH 16x85	16 x 95 mm	M 8 - M 10	•	10
6203616130	VM-SH 16x130	16 x 140 mm	M 8 - M 10	•	10
620362085	VM-SH 20x85	20 x 95 mm	M 12	•	10

Application guns for FAKKT injection mortar VMU

Type: For applying FAKKT injection mortar VMU 420 XL fix.

FAKKT



Application gun
Pro



Application gun
Standard

Item no.	Type	Price per piece	Package contents
6203524	Standard	•	1
6203525	Pro	•	1

Fischer injection mortar system Highbond FHB II-P



Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 24, approval no. ETA-05/0164. For galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer FHB Highbond injection mortar system is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, railings, noise barriers, machines and much more.

Properties: The Fischer FHB II Highbond mortar system is based on styrene-free vinyl ester resin. It is a strong and form-fitting composite that is fit for cracks. Small axial and edge spacing. Installation in the push-through procedure is possible using annular gap backfilling. Optional use with injection cartridge. Highbond from the cartridge is also permitted in moist boreholes and FHB II cartridges are even permitted in water-filled boreholes and under water. No borehole cleaning and no resulting deeper boring and sealing of bore dust necessary. This reduces the installation time to up to 40% and therefore saves working time and costs. This only applies to the cartridges FHB II-P and FHB II-PF. The conventional borehole cleaning remains in place for FHB II 345 S and FHB II 150 C mortar from the cartridge.

Installation instructions: Installation only permitted with torque wrench.

The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions (only for cartridges, not mortar cartridges).

Advantages:

- no borehole cleaning necessary, resulting in enormous time savings during installation
- low concrete component thicknesses
- high load-carrying capacity in cracked concrete
- variable applications thanks to cartridges and glass cartridges

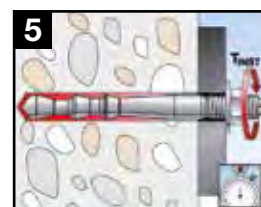
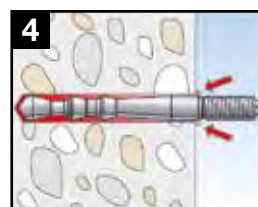
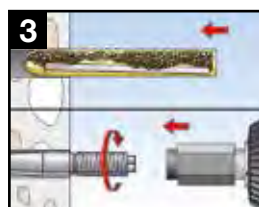
Note: The Fischer Highbond injection mortar and cartridges are only permitted in conjunction with Fischer FHB II anchor rods. The anchor rods are not included in the price of the Fischer mortar cartridges.



Standard length						DG 2133	
Item no.	Type	for FHB anchors	Hole Ø	Drilled hole depth/anchoring	Price per 100 pieces	Package contents	
626741060	FHB II - P 10 x 60	FHB II - AS M 10 x 60	10 mm	75 / 60 mm	•	10	
626741075	FHB II - P 10 x 75	FHB II AS M 10 x 75	10 mm	90 / 75 mm	•	10	
626741275	FHB II - P 12 x 75	FHB II - AS M 12 x 75	12 mm	90 / 75 mm	•	10	
626741695	FHB II - P 16 x 95	FHB II - AS M 16 x 95	16 mm	110 / 95 mm	•	10	
6267420170	FHB II - P 20 x 170	FHB II - AS M 20 x 170	25 mm	190 / 170 mm	•	4	
6267424170	FHB II - P 24 x 170	FHB II - AS M 24 x 170	25 mm	190 / 170 mm	•	4	



extended design						DG 2133	
Item no.	Type	for FHB anchors	Hole Ø	Drilled hole depth/anchoring	Price per 100 pieces	Package contents	
62675860	FHB II - P 8 x 60	FHB II - AL M 8 x 60	10 mm	75 / 60 mm	•	10	
626751095	FHB II - P 10 x 95	FHB II - AL M 10 x 95	12 mm	110 / 95 mm	•	10	
6267512100	FHB II - P 12 x 100	FHB II - AL M 12 x 100	14 mm	115 / 100 mm	•	10	
6267512120	FHB II - P 12 x 120	FHB II - AL M 12 x 120	14 mm	135 / 120 mm	•	10	
6267516125	FHB II - P 16 x 125	FHB II - AL M 16 x 125	18 mm	145 / 125 mm	•	10	
6267516160	FHB II - P 16 x 160	FHB II - AL M 16 x 160	18 mm	175 / 160 mm	•	10	
6267520210	FHB II - P 20 x 210	FHB II - AL M 20 x 210	25 mm	235 / 210 mm	•	4	



Fischer injection mortar system Highbond FHB II-PF quick version

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 24, approval no. ETA-05/0164. For galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The rapid curing cartridges are recommended in particular at low temperatures, for overhead installations or for under water applications.

Please take note of the processing times at higher temperatures.

Properties: The Fischer FHB II Highbond mortar system is based on styrene-free vinyl ester resin. It is a strong and form-fitting composite that is fit for cracks. Small axial and edge spacing. Installation in the push-through procedure is possible using annular gap backfilling. Optional use with injection cartridge. Highbond from the cartridge is also permitted in moist boreholes and FHB II cartridges are even permitted in water-filled boreholes and under water. No borehole cleaning and no resulting deeper boring and sealing of bore dust necessary. This reduces the installation time to up to 40% and therefore saves working time and costs. This only applies to the cartridges FHB II-P and FHB II-PF. The conventional borehole cleaning remains in place for FHB II 345 S and FHB II 150 C mortar from the cartridge.

Installation instructions: Installation only permitted with torque wrench.

The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions (only for cartridges, not mortar cartridges).

Advantages:

- extremely rapid curing times
- significantly reduced installation times
- cost savings thanks to shorter wait times
- no borehole cleaning necessary, resulting in enormous time savings during installation

Note: The Fischer Highbond injection mortar and cartridges are only permitted in conjunction with Fischer FHB II anchor rods. The anchor rods are not included in the price of the Fischer mortar cartridges.



Standard length

DG 2133

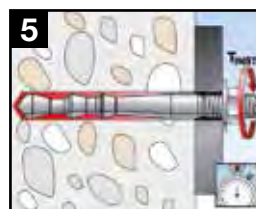
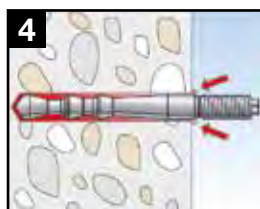
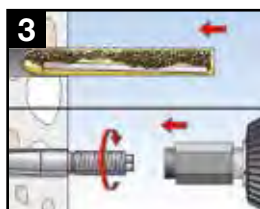
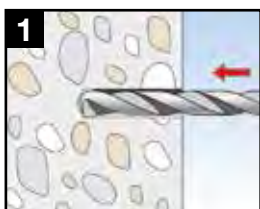
Item no.	Type	for FHB anchors	Hole Ø	Drilled hole depth/anchoring	Price per 100 pieces	Package contents
627451060	FHB II - PF 10 x 60	FHB II - AS M 10 x 60	10 mm	75 / 60 mm	•	10
627451075	FHB II - PF 10 x 75	FHB II - AS M 10 x 75	10 mm	90 / 75 mm	•	10
627451275	FHB II - PF 12 x 75	FHB II - AS M 12 x 75	12 mm	90 / 75 mm	•	10
627451695	FHB II - PF 16 x 95	FHB II - AS M 16 x 95	16 mm	110 / 95 mm	•	10
6274524170	FHB II - PF 24 x 170	FHB II - AS M 24 x 170	25 mm	190 / 170 mm	•	4



extended design

DG 2133

Item no.	Type	for FHB anchors	Hole Ø	Drilled hole depth/anchoring	Price per 100 pieces	Package contents
62746860	FHB II - PF 8 x 60	FHB II - AL M 8 x 60	10 mm	75 / 60 mm	•	10
627461095	FHB II - PF 10 x 95	FHB II - AL M 10 x 95	12 mm	110 / 95 mm	•	10
6274612120	FHB II - PF 12 x 120	FHB II - AL M 10 x 120	14 mm	135 / 120 mm	•	10
6274616160	FHB II - PF 16 x 160	FHB II - AL M 16 x 160	18 mm	175 / 160 mm	•	10
6274620210	FHB II - PF 20 x 210	FHB II - AL M 20 x 210	25 mm	235 / 210 mm	•	4



Temperature in the borehole	Curing times		
	FHB II-PF quick version	FHB II - P	FIS-HB 945 S
0 °C	6 min.	45 min.	180 min.
> +21 °C	2 min.	10 min.	35 min.

Fischer Highbond FIS-HB 345 S composite mortar



Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 24, approval no. ETA-05/0164. For galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer FHB Highbond injection mortar system is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, railings, noise barriers, machines and much more.

Properties: The Fischer FHB II Highbond mortar system is based on styrene-free vinyl ester resin. It is a strong and form-fitting composite that is fit for cracks. Small axial and edge spacing. Installation in the push-through procedure is possible using annular gap backfilling. Optional use with injection cartridge. Highbond from the cartridge is also permitted in moist boreholes and FHB II cartridges are even permitted in water-filled boreholes and under water.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and brush. Installation only permitted with torque wrench. With external hardener. A gun with double rods is required for application.

The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions (only for cartridges, not mortar cartridges).

Advantages:

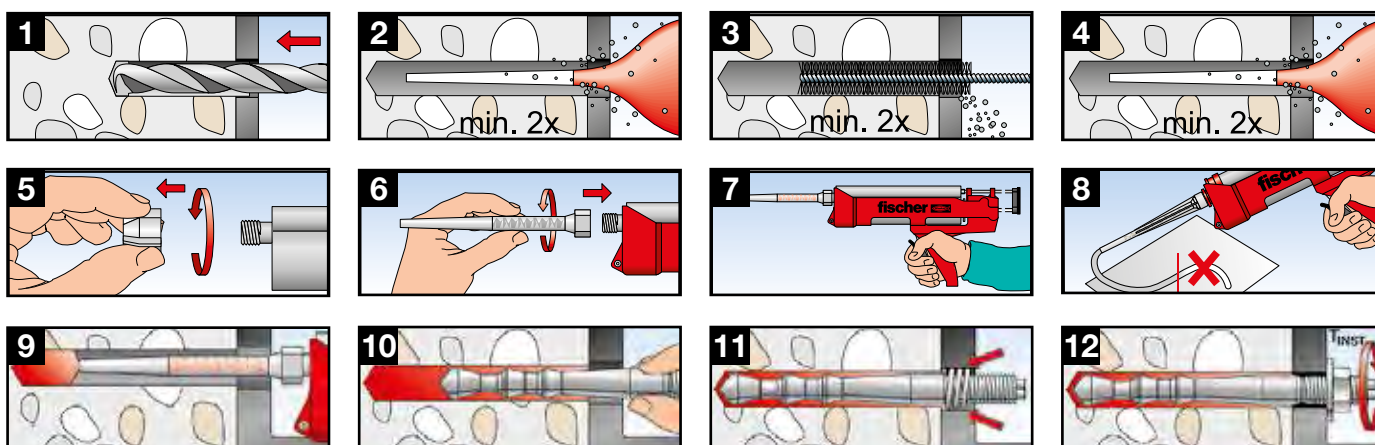
- extremely rapid curing thanks to FHB II-PF cartridge
- low concrete component thicknesses
- high load-carrying capacity in cracked concrete
- variable applications thanks to cartridges and glass cartridges

Note: The Fischer Highbond injection mortar and cartridges are only permitted in conjunction with Fischer FHB II anchor rods. The anchor rods are not included in the price of the Fischer mortar cartridges. Every cartridge comes with 2 mixing tubes. For proper and compliant installation, cleaning tools, special application guns and mixing tubes are necessary.



DG 2134

Item no.	Cartridge contents	Price per piece	Package contents
62635345	345 ml	•	1



Temperature in the borehole	Curing times		
	FHB II-PF quick version	FHB II - P	FIS-HB 945 S
0 °C	6 min.	45 min.	180 min.
> +21 °C	2 min.	10 min.	35 min.

Fischer Highbond FIS-HB 150 C composite mortar



Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 24, approval no. ETA-05/0164. For galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer FHB Highbond injection mortar system is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, railings, noise barriers, machines and much more.

Properties: The Fischer FHB II Highbond mortar system is based on styrene-free vinyl ester resin. It is a strong and form-fitting composite that is fit for cracks. Small axial and edge spacing. Installation in the push-through procedure is possible using annular gap backfilling. Optional use with injection cartridge. Highbond from the cartridge is also permitted in moist boreholes and FHB II cartridges are even permitted in water-filled boreholes and under water.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and brush. Installation only permitted with torque wrench. With internal hardener. A customary, powerful silicone application gun is sufficient for dispensing. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions (only for cartridges, not mortar cartridges).

Advantages:

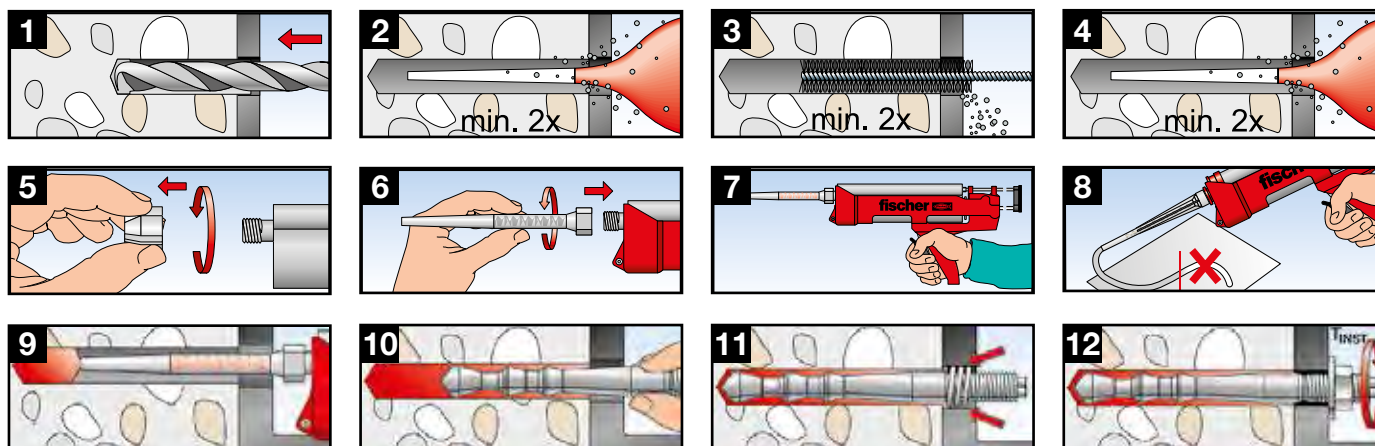
- extremely rapid curing thanks to FHB II-PF cartridge
- low concrete component thicknesses
- high load-carrying capacity in cracked concrete
- variable applications thanks to cartridges and glass cartridges

Note: The Fischer Highbond injection mortar and cartridges are only permitted in conjunction with Fischer FHB II anchor rods. The anchor rods are not included in the price of the Fischer mortar cartridges. Every cartridge comes with 2 mixing tubes. For proper and compliant installation, cleaning tools, special application guns and mixing tubes are necessary.



DG 2134

Item no.	Contents	Price per piece	Package contents
62635150	150 ml	•	1



Temperature in the borehole	Curing times		
	FHB II-PF quick version	FHB II - P	FIS-HB 945 S
0 °C	6 min.	45 min.	180 min.
> +21 °C	2 min.	10 min.	35 min.

Fischer Highbond FHB II anchor rod



Approved by the building authorities: Approved in conjunction with the Fischer FHB II injection system for fastening in cracked concrete.

Application: The Fischer FHB II Highbond injection mortar system is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, railings, noise barriers, machines and much more.

Properties: The Fischer FHB II Highbond mortar system is based on styrene-free vinyl ester resin. It is a strong and form-fitting composite that is fit for cracks. Small axial and edge spacing. Installation in the push-through procedure is possible using annular gap backfilling. Optional use with injection cartridge. Highbond from the cartridge is also permitted in moist boreholes and FHB II cartridges are even permitted in water-filled boreholes and under water.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and brush. Installation only permitted with torque wrench.

The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions (only for cartridges, not mortar cartridges).

Advantages:

- extremely rapid curing thanks to FHB II-PF cartridge
- low concrete component thicknesses
- high load-carrying capacity in cracked concrete
- variable applications thanks to cartridges and glass cartridges

Note: The Fischer Highbond anchor rods and cartridges are only permitted in conjunction with Fischer FIS FHB injection mortar and FHB II cartridges. The mortar and the cartridges are not included in the price of the Fischer anchor rods.



galvanized									DG 2142
Item no.	Type	Thread Ø	Hole Ø	Clamping range	Drilled hole depth/anchoring	Filling quantity, scale divisions**	Price per 100 pieces	Package contents	
626701010	FHB II - AS 10 x 60/10	M 10	10 mm	10 mm	75 / 60 mm	3	•	10	
626701020	FHB II - AS 10 x 60/20	M 10	10 mm	20 mm	75 / 60 mm	3	•	10	
626701060	FHB II - AS 10 x 60/60	M 10	10 mm	60 mm	75 / 60 mm	3	•	10	
6267010100	FHB II - AS 10 x 60/100	M 10	10 mm	100 mm	75 / 60 mm	3	•	10	
62670107510	FHB II - AS 10 x 75/10	M 10	10 mm	10 mm	90 / 75 mm	4	•	10	
62670107520	FHB II - AS 10 x 75/20	M 10	10 mm	20 mm	90 / 75 mm	4	•	10	
62670107560	FHB II - AS 10 x 75/60	M 10	10 mm	60 mm	90 / 75 mm	4	•	10	
626701075100	FHB II - AS 10 x 75/100	M 10	10 mm	100 mm	90 / 75 mm	4	•	10	
626701210	FHB II - AS 12 x 75/10	M 12	12 mm	10 mm	90 / 75 mm	4	•	10	
626701225	FHB II - AS 12 x 75/25	M 12	12 mm	25 mm	90 / 75 mm	4	•	10	
626701260	FHB II - AS 12 x 75/60	M 12	12 mm	60 mm	90 / 75 mm	4	•	10	
6267012100	FHB II - AS 12 x 75/100	M 12	12 mm	100 mm	90 / 75 mm	4	•	10	
6267012165	FHB II - AS 12 x 75/165	M 12	12 mm	165 mm	90 / 75 mm	4	•	10	
626701630	FHB II - AS 16 x 95/30	M 16	16 mm	30 mm	110 / 95 mm	8	•	10	
626701660	FHB II - AS 16 x 95/60	M 16	16 mm	60 mm	110 / 95 mm	8	•	10	
6267016100	FHB II - AS 16 x 95/100	M 16	16 mm	100 mm	110 / 95 mm	8	•	10	
6267016165	FHB II - AS 16 x 95/165	M 16	16 mm	165 mm	110 / 95 mm	8	•	10	
626702050	FHB II - AS 20 x 170/50	M 20	25 mm	50 mm	190 / 170 mm	26	•	4	
626702450	FHB II - AS 24 x 170/50	M 24	25 mm	50 mm	190 / 170 mm	26	•	4	

**) The HB 345 S cartridge has 180 scale marks on it.

Continuation of Fischer Highbond FHB II anchor rod

Stainless steel A4

DG 2151

Item no.	Type	Thread Ø	Hole Ø	Clamping range	Drilled hole depth/anchoring	Filling quantity, scale divisions**	Price per 100 pieces	Package contents
626781010	FHB II - AS 10 x 60/10 A4	M 10	10 mm	10 mm	75 / 60 mm	3	•	10
626781020	FHB II - AS 10 x 60/20 A4	M 10	10 mm	20 mm	75 / 60 mm	3	•	10
626781040	FHB II - AS 10 x 60/40 A4	M 10	10 mm	40 mm	75 / 60 mm	3	•	10
626781060	FHB II - AS 10 x 60/60 A4	M 10	10 mm	60 mm	75 / 60 mm	3	•	10
6267810100	FHB II - AS 10 x 60/100 A4	M 10	10 mm	100 mm	75 / 60 mm	3	•	10
62678107510	FHB II - AS 10 x 75/10 A4	M 10	10 mm	10 mm	90 / 75 mm	4	•	10
62678107520	FHB II - AS 10 x 75/20 A4	M 10	10 mm	20 mm	90 / 75 mm	4	•	10
62678107540	FHB II - AS 10 x 75/40 A4	M 10	10 mm	40 mm	90 / 75 mm	4	•	10
62678107560	FHB II - AS 10 x 75/60 A4	M 10	10 mm	60 mm	90 / 75 mm	4	•	10
626781075100	FHB II - AS 10 x 75/100 A4	M 10	10 mm	100 mm	90 / 75 mm	4	•	10
626781210	FHB II - AS 12 x 75/10 A4	M 12	12 mm	10 mm	90 / 75 mm	4	•	10
626781225	FHB II - AS 12 x 75/25 A4	M 12	12 mm	25 mm	90 / 75 mm	4	•	10
626781240	FHB II - AS 12 x 75/40 A4	M 12	12 mm	40 mm	90 / 75 mm	4	•	10
626781260	FHB II - AS 12 x 75/60 A4	M 12	12 mm	60 mm	90 / 75 mm	4	•	10
6267812100	FHB II - AS 12 x 75/100 A4	M 12	12 mm	100 mm	90 / 75 mm	4	•	10
626781630	FHB II - AS 16 x 95/30 A4	M 16	16 mm	30 mm	110 / 95 mm	8	•	10
626781660	FHB II - AS 16 x 95/60 A4	M 16	16 mm	60 mm	110 / 95 mm	8	•	10
6267816100	FHB II - AS 16 x 95/100 A4	M 16	16 mm	100 mm	110 / 95 mm	8	•	10
626782050	FHB II - AS 20 x 170/50 A4	M 20	25 mm	50 mm	190 / 170 mm	26	•	4
6267824170	FHB II - AS 24 x 170/50 A4	M 24	25 mm	50 mm	190 / 170 mm	26	•	4

**) The HB 345 S cartridge has 180 scale marks on it.

Fischer Highbond FHB II anchor rod AL - long



Approved by the building authorities: Approved in conjunction with the Fischer FHB II injection system for fastening in cracked concrete.

Application: The Fischer FHB II Highbond injection mortar system is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, railings, noise barriers, machines and much more.

Properties: The Fischer FHB II Highbond mortar system is based on styrene-free vinyl ester resin. It is a strong and form-fitting composite that is fit for cracks. Small axial and edge spacing. Installation in the push-through procedure is possible using annular gap backfilling. Optional use with injection cartridge. Highbond from the cartridge is also permitted in moist boreholes and FHB II cartridges are even permitted in water-filled boreholes and under water.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and brush. Installation only permitted with torque wrench.

The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions (only for cartridges, not mortar cartridges).

Advantages:

- extremely rapid curing thanks to FHB II-PF cartridge
- low concrete component thicknesses
- high load-carrying capacity in cracked concrete
- variable applications thanks to cartridges and glass cartridges

Note: The Fischer Highbond anchor rods and cartridges are only permitted in conjunction with Fischer FIS FHB injection mortar and FHB II cartridges. The mortar and the cartridges are not included in the price of the Fischer anchor rods.



galvanized									DG 2142
Item no.	Type	Thread Ø	Hole Ø	Clamping range	Drilled hole depth/anchoring	Filling quantity, scale divisions*	Price per 100 pieces	Pack- age con- tents	
62679810	FHB II - AL 8 x 60/10	M 8	10 mm	10 mm	75 / 60 mm	3	•	10	
62679830	FHB II - AL 8 x 60/30	M 8	10 mm	30 mm	75 / 60 mm	3	•	10	
62679850	FHB II - AL 8 x 60/50	M 8	10 mm	50 mm	75 / 60 mm	3	•	10	
626791010	FHB II - AL 10 x 95/10	M 10	12 mm	10 mm	110 / 95 mm	5	•	10	
626791020	FHB II - AL 10 x 95/20	M 10	12 mm	20 mm	110 / 95 mm	5	•	10	
626791060	FHB II - AL 10 x 95/60	M 10	12 mm	60 mm	110 / 95 mm	5	•	10	
6267910100	FHB II - AL 10 x 95/100	M 10	12 mm	100 mm	110 / 95 mm	5	•	10	
626791210010	FHB II - AL 12 x 100/10	M 12	14 mm	10 mm	115 / 100 mm	7	•	10	
626791210025	FHB II - AL 12 x 100/25	M 12	14 mm	25 mm	115 / 100 mm	7	•	10	
626791210	FHB II - AL 12 x 120/10	M 12	14 mm	10 mm	135 / 120 mm	7	•	10	
626791225	FHB II - AL 12 x 120/25	M 12	14 mm	25 mm	135 / 120 mm	7	•	10	
626791260	FHB II - AL 12 x 120/60	M 12	14 mm	60 mm	135 / 120 mm	7	•	10	
62097031	FHB II - AL 12 x 120/100	M 12	14 mm	100 mm	135 / 120 mm	7	•	10	
626791612530	FHB II - AL 16 x 125/30	M 16	18 mm	30 mm	145 / 125 mm	11	•	10	
626791612560	FHB II - AL 16 x 125/60	M 16	18 mm	60 mm	145 / 125 mm	11	•	10	
626791630	FHB II - AL 16 x 160/30	M 16	18 mm	30 mm	175 / 160 mm	13	•	10	
626791660	FHB II - AL 16 x 160/60	M 16	18 mm	60 mm	175 / 160 mm	13	•	10	
6267916100	FHB II - AL 16 x 160/100	M 16	18 mm	100 mm	175 / 160 mm	13	•	10	
626792050	FHB II - AL 20 x 210/50	M 20	25 mm	50 mm	235 / 210 mm	33	•	4	

*) The HB 345 S cartridge has 180 scale marks on it.

Continuation of Fischer Highbond FHB II anchor rod AL - long

Stainless steel A4

DG 2151

Item no.	Type	Thread Ø	Hole Ø	Clamp- ing range	Drilled hole depth/ anchoring	Filling quan- tity, scale divi- sions*	Price per 100 pieces	Pack- age con- tents
62673810	FHB II - AL 8 x 60/10 A4	M 8	10 mm	10 mm	75 / 60 mm	3	•	10
62673830	FHB II - AL 8 x 60/30 A4	M 8	10 mm	30 mm	75 / 60 mm	3	•	10
62673850	FHB II - AL 8 x 60/50 A4	M 8	10 mm	50 mm	75 / 60 mm	3	•	10
626731010	FHB II - AL 10 x 95/10 A4	M 10	12 mm	10 mm	110 / 95 mm	5	•	10
626731020	FHB II - AL 10 x 95/20 A4	M 10	12 mm	20 mm	110 / 95 mm	5	•	10
626731040	FHB II - AL 10 x 95/40 A4	M 10	12 mm	40 mm	110 / 95 mm	5	•	10
626731060	FHB II - AL 10 x 95/60 A4	M 10	12 mm	60 mm	110 / 95 mm	5	•	10
6267310100	FHB II - AL 10 x 95/100 A4	M 10	12 mm	100 mm	110 / 95 mm	5	•	10
626731210010	FHB II - AL 12 x 100/10 A4	M 12	14 mm	10 mm	115 / 100 mm	7	•	10
626731210025	FHB II - AL 12 x 100/25 A4	M 12	14 mm	25 mm	115 / 100 mm	7	•	10
626731210	FHB II - AL 12 x 120/10 A4	M 12	14 mm	10 mm	135 / 120 mm	7	•	10
626731225	FHB II - AL 12 x 120/25 A4	M 12	14 mm	25 mm	135 / 120 mm	7	•	10
626731240	FHB II - AL 12 x 120/40 A4	M 12	14 mm	40 mm	135 / 120 mm	7	•	10
626731260	FHB II - AL 12 x 120/60 A4	M 12	14 mm	60 mm	135 / 120 mm	7	•	10
6267312100	FHB II - AL 12 x 120/100 A4	M 12	14 mm	100 mm	135 / 120 mm	7	•	10
626731612530	FHB II - AL 16 x 125/30 A4	M 16	18 mm	30 mm	145 / 125 mm	11	•	10
626731612560	FHB II - AL 16 x 125/60 A4	M 16	18 mm	60 mm	145 / 125 mm	13	•	10
626731630	FHB II - AL 16 x 160/30 A4	M 16	18 mm	30 mm	175 / 160 mm	13	•	10
626731660	FHB II - AL 16 x 160/60 A4	M 16	18 mm	60 mm	175 / 160 mm	13	•	10
6267316100	FHB II - AL 16 x 160/100 A4	M 16	18 mm	100 mm	175 / 160 mm	13	•	10
626732050	FHB II - AL 20 x 210/50 A4	M 20	25 mm	50 mm	235 / 210 mm	33	•	4

*) The HB 345 S cartridge has 180 scale marks on it.

i Loads for Highbond System FHB II

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	mini- mum com- pon- ent thick- ness	installation torque	per- missible tensile load	per- missible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing ⁷⁾
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $C_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FHB II-A L M8 x 60	gzp	60	100	15	8.0 ⁴⁾	7.8		165			
	A4 / C					8.7	90	185	180	40	40
FHB II-A S M10 x 60	gzp	60	100	15	8.0 ⁴⁾	11.3		245			
	A4 / C					13.8	90	310	180	40	40
FHB II-A S M10 x 75	gzp	75	120	15	11.1	11.3		215			
	A4 / C					13.8	113	270	225	40	40
FHB II-A L M10 x 95	gzp	95	140	20	15.9	11.9		200			
	A4 / C					13.3	143	225	285	40	40
FHB II-A S M12 x 75	gzp	75	120	30	11.1	15.6		305			
	A4 / C					19.3	113	385	225	40	40
FHB II-A L M12 x 100	gzp	100	140	40	17.1	17.3		300			
	A4 / C					19.3	150	335	300	50	50
FHB II-A L M12 x 120	gzp	120	170	40	22.5	17.3		260			
	A4 / C					19.3	180	295	360	50	50
FHB II-A S M16 x 95	gzp	95	150	50	15.9	29.0		510			
	A4 / C					31.7	143	560	285	50	50
FHB II-A L M16 x 125	gzp	125	170	60	24.0	32.2		505			
	A4 / C					35.8	188	570	375	55	55
FHB II-A L M16 x 145	gzp	145	190	60	29.9	32.2		465			
	A4 / C					35.8	218	525	435	60	60
FHB II-A L M16 x 160	gzp	160	220	60	34.7	32.2		420			
	A4 / C					35.8	240	475	480	70	70
FHB II-A S M20 x 170	gzp	170	240	100	38.0	45.9		575			
	A4 / C					55.9	255	720	510	80	80
FHB II-A L M20 x 210	gzp	210	280	100	52.2	50.2		560			
	A4 / C					55.9	315	635	630	90	90
FHB II-A S M24 x 170	gzp					65.3		860			
	A4	170	240	100	38.0	71.1	255	945	510	80	80
	C					76.0		1020			
FHB II-A L M24 x 210	gzp	210	280	100	52.2	72.5		860			
	A4 / C					80.6	315	970	630	90	90

The entire ETA - 05/0164 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration. A dowel with axial spacing of $s \geq 3 \times h_{ef}$, for example, is considered a single dowel.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths up to C50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.
- 4) Valid for FIS HB injection mortar. See approval when using the FHP II-P or FHP II-PF mortar cartridges.
- 5) The specified loads are valid for anchorings in dry and damp concrete for temperatures in the anchoring base up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval.

Fischer Highbond dynamic anchor rods



Approved by the building authorities: Building Standards Approval, cracked concrete M 12 - M 16, approval no. Z-21.3-1748 for galvanically zinc-plated steel and stainless steel HCR 1.4529.

Application: The Fischer Highbond FHB-A dynamic anchor rods are used in conjunction with Fischer FIS HB injection mortar for fastening heavy objects in concrete under dynamic loads. Main areas of application include industrial robots, overhead and column-mounted slewing cranes, elevators, facade substructures, transmitter masts and much more.

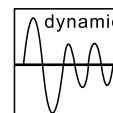
Properties: For dynamic, tension-free stress. Installation in the push-through procedure is possible. A combination of a specially shaped nut and washer ensures the function of a dynamic load, even with setting inaccuracy. Temperature-sensitive setting times.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and brush. Installation only permitted with torque wrench.

Advantages:

- for dynamic alternating loads

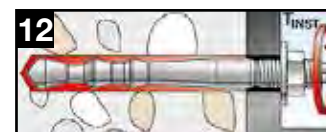
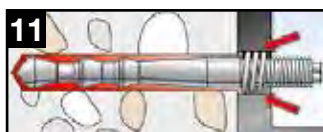
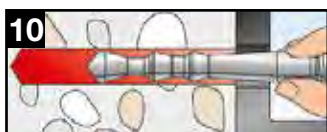
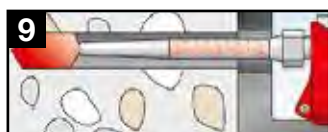
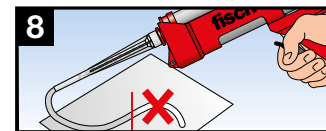
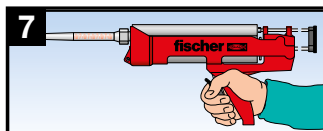
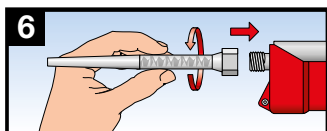
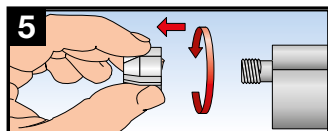
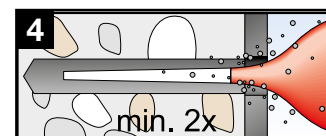
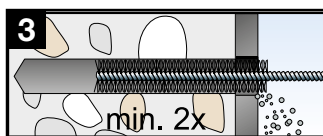
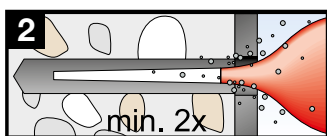
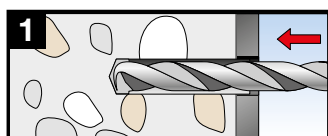
Note: The Fischer FHB-A dyn Highbond anchors are only approved in conjunction with Fischer FIS HB mortar cartridges. The mortar cartridges are not included in the price of the anchor rods. Installation with mortar cartridges FHB II-P or FHB II-PF is not possible.



DG 2142

Item no.	Type	Thread	Hole Ø	Hole Ø in fixture	Borehole depth through attached part	Anchoring depth	Clamping range, min. - max.	Mortar need*	Price per 100 pieces	Pack- age contents
6265312100	FHB-dyn 12 x 100/25	M 12 mm	14 mm	15 mm	130 mm	100 mm	8 - 25 mm	7	•	10
62653121001	FHB-dyn 12 x 100/50	M 12 mm	14 mm	15 mm	155 mm	100 mm	8 - 50 mm	8	•	10
6265316125	FHB-dyn 16 x 125/25	M 16 mm	18 mm	19 mm	155 mm	125 mm	10 - 25 mm	9	•	10
62653161251	FHB-dyn 16 x 125/50	M 16 mm	18 mm	19 mm	180 mm	125 mm	10 - 50 mm	10	•	10
6265320170	FHB-dyn 20 x 170/50	M 20 mm	24 mm	25 mm	225 mm	170 mm	12 - 50 mm	23	•	10
6265324220	FHB-dyn 24 x 220/50	M 24 mm	28 mm	29 mm	275 mm	220 mm	14 - 50 mm	38	•	5

*) scale marks. The FHB II 345 ml cartridge has 180 scale marks on it.



Continued on the next page

① Loads for Highbond dynamic FHB dyn anchor

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	minimum component thickness	Installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load $c_{cr,N}$ [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FHB dyn 12 x 100	gzp.	100	200	40	14.1	6.7	150	100	300	100	100 ⁴⁾
FHB dyn 12 x 100 V	gzp.	100	200	40	14.1	9.6	150	125	300	100	100
FHB dyn 16 x 125	gzp., 8.8 C / 1.4529	125	250	60	23.0 15.6	11.9	190	145	375	100	100
FHB dyn 16 x 125 V	gzp.	125	250	60	23.0	17.0	190	185	375	100	100
FHB dyn 20 x 170	gzp.	170	340	100	28.1	17.0	255	175	510	150	150
FHB dyn 24 x 220	gzp.	220	440	120	28.9	22.2	330	200	660	180	180

The entire Z-21.3-1748 approval notice is to be observed for the measurement.

- 1) The permissible loads apply to the entire working stroke with more than 2×10^6 load cycles according to calculation procedure II (unknown underload and unknown number of cycles). Higher loads are possible when using method I. The partial safety factors of the resistors governed in the approval as well as the partial safety factor of the effect against fatigue $y_{F,fat}$ are taken into consideration. A dowel with axial spacing of $s \geq 3 \times h_{ef}$, for example, is considered a single dowel.
) The specified loads are valid for anchorings in dry and damp concrete for temperatures in the anchoring base up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads as well as for reduced edge and axial spacing (dowel groups). For multi-fasteners (more than one dowel per component to be connected), the permissible tensile loads are to be divided by the value $y_{FN} = 1.25$ and the permissible loads by the value $y_{FV} = 1.3$.
- 3) At higher concrete strengths up to C50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.
- 4) Without reduction of the load.

Fischer Powerbond FIS PM 360 S Injection Mortar

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 10 - M 16, ETA-12/0160-ETAG 0001-1. For galvanically zinc-plated steel, stainless steel A4 and HCR.

Application: The Fischer FIS PM Powerbond injection mortar system is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, railings, noise barriers, machines and much more.

Properties: The Fischer Highbond FIS PM injection system is a new, inexpensive system for cracked concrete. It comprises Fischer FIS A anchor rods, FIS PS Power-sleeve sleeves and the FIS PM special mortar. This combination unites the advantages of tapered composite anchors and threaded rods. During push-through assembly, the annular gap in the anchor base is filled up properly by the excess mortar. 360 ml cartridge with external hardener. A gun with double rods is required for application.

Advantages:

- inexpensive injection system for cracked concrete
- very accurate anchoring depth of 60-192 mm
- Installation without a torque wrench and setting tool is permitted



DG 2134

Item no.	Contents	Scale divisions	Price per piece	Package contents
62895360	360 ml	180	•	10

FIS PM cartridge temperature (mortar at least + 5 °C)	FIS PM processing time	Temperature in the anchoring base	FIS PM curing time
		- 5 °C - ± 0 °C	360 min.
		± 0 °C - + 5 °C	180 min.
+ 5 °C - +20 °C	15 min.	+ 5 °C - +20 °C	90 min.
+20 °C - +30 °C	6 min.	+20 °C - +30 °C	35 min.
+30 °C - +40 °C	4 min.	+30 °C - +40 °C	20 min.
> +40 °C	2 min.	> +40 °C	12 min.

Caution: The curing times must be doubled in wet concrete!

Fischer Superbond Mortar Cartridge RSB



Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 30, ETA-12/0258-ETAG 001-5.

Application: The Fischer RSB reaction anchor cartridges are used in conjunction with Fischer RG M reaction anchor rods for fastening heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, noise barriers, guardrails and much more.

Properties: In conjunction with anchor rods from M 8 to M 30 and internally threaded anchors from M 8 to M 20 (each in different materials) superbond offers versatile fastening possibilities. The fastening system comprises RSB mortar cartridges with RG M anchor rods or Fischer RG MI internally threaded anchors.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower (K&K item no. 62034).

Advantages:

- particularly inexpensive all-around fastening in cracked concrete
- application temperature range of -40° to +150 °C
- independent of weather conditions, installation for mortar cartridges up to -30 °C (temperature in the anchoring base)
- installation without a torque wrench and setting tool is permitted
- RSB mortar cartridge is permitted for installations in water-filled and diamond-drilled boreholes

Note: The anchor rods are not included in the price of the Fischer mortar cartridges. A cleaning tool is required for proper and compliant installation.

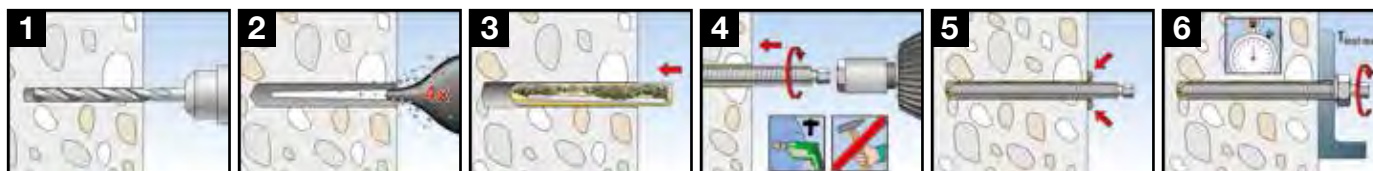


DG 2136

Item no.	Type	for anchor rods	Hole Ø	Borehole depth	Anchoring depth	Price per 100 pieces	Package contents
62896880	RSB 8 x 80	RG M 8	10 mm	80 mm	80 mm	•	10
628961075	RSB 10 mini x 75/150*	RG M 10	12 mm	75 / 150* mm	75 / 150* mm	•	10
628961090	RSB 10 x 90	RG M 10 / RG MI 8	12 / 14 mm	90 mm	90 mm	•	10
628961275	RSB 12 mini x 75/150*	RG M 12	14 mm	75 / 150* mm	75 / 150* mm	•	10
6289612110	RSB 12 x 110	RG M 12 / RG MI 10	14 / 18 mm	110 mm	110 mm	•	10
628961695	RSB 16 mini x 95/190*	RG M 16	18 mm	95 / 190* mm	95 / 190* mm	•	10
6289616125	RSB 16 x 125	RG M 16 / RG MI 12	18 / 20 mm	125 mm	125 mm	•	10
6289616160	RSB 16 E x 160	RG M 16 I	24 mm	160 mm	160 mm	•	10
6289620170	RSB 20 x 170	RG M 20	25 mm	170 mm	170 mm	•	10
6289624210	RSB 20 E / 24 x 210	RG M 20 / RG M 24 / RG MI 20	25 / 28 / 32 mm	210 mm	210 mm	•	5
6289630280	RSB 30 x 280	RG M 30	35 mm	280 mm	280 mm	•	5

*) for 2 cartridges in a row

Temperature in the anchoring base	Curing times
> -30 °C to -20 °C	120 hours
> -15 °C to -10 °C	30 hours
> 0 °C to +5 °C	45 minutes
> 20 °C to 30 °C	5 minutes



Fischer anchor rod for reaction anchor

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 8 to M 30, approval no. ETA-08/0010 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Also suitable for cracked concrete in conjunction with FIS Powerbond (with Powersleeve) and FIS Superbond European Technical Approval Option 1 ETA-12/0160 and ETA-12/0258.

Application: The Fischer RG M reaction anchor rods are used in conjunction with Fischer R M reaction anchor cartridges for fastening heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, noise barriers, guardrails and much more.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer RG M reaction anchor rods are only approved in conjunction with Fischer R reaction anchor cartridges. The anchor rods are not included in the price of the cartridges. All threaded rods have a hexagonal head as an insertion aid up to and including size 16, as well as size M 20 x 260. An adapter comes with every pack. All dimensions are cut off smoothly starting from anchor rod 20 x 350. Use in conjunction with Powerbond only with Powersleeve.



DG 2147

galvanized				
Item no.	Thread Ø x length	Hole Ø	Price per 100 pieces	Package contents
625518	M 8 x 110 mm	10.0 mm	•	10
6255110	M 10 x 130 mm	12.0 mm	•	10
6255110165	M 10 x 165 mm	12.0 mm	•	10
6255110190	M 10 x 190 mm	12.0 mm	•	10
6255112	M 12 x 160 mm	14.0 mm	•	10
6255112220	M 12 x 220 mm	14.0 mm	•	10
6255112250	M 12 x 250 mm	14.0 mm	•	10
6255112300	M 12 x 300 mm	14.0 mm	•	10
6255114	M 14 x 170* mm	16.0 mm	•	10
6255116165	M 16 x 165 mm	18.0 mm	•	10
6255116	M 16 x 190 mm	18.0 mm	•	10
6255116250	M 16 x 250 mm	18.0 mm	•	10
6255116300	M 16 x 300 mm	18.0 mm	•	10
6255120	M 20 x 260 mm	25.0 mm	•	10
6255120350	M 20 x 350 mm	25.0 mm	•	10
6202622	M 22 x 280* mm	30.0 mm	•	5
6255124300	M 24 x 300 mm	28.0 mm	•	10
6255127340	M 27 x 340 mm	32.0 mm	•	5
6255130380	M 30 x 380 mm	35.0 mm	•	5



DG 2154

Stainless steel A4

Item no.	Thread Ø x length	Hole Ø	Price per 100 pieces	Package contents
625538110	M 8 x 110 mm	10.0 mm	•	10
6255310130	M 10 x 130 mm	12.0 mm	•	10
6255310165	M 10 x 165 mm	12.0 mm	•	10
6255310190	M 10 x 190 mm	12.0 mm	•	10
6255312160	M 12 x 160 mm	14.0 mm	•	10
6255316190	M 16 x 190 mm	18.0 mm	•	10
6255320260	M 20 x 260 mm	25.0 mm	•	10

*) not included in the approval.

Continued on the next page

Reaction anchor rods



Dimension mm	Hole Ø	suitable for anchor R cartridges and anchoring depths min. for R cartridges	suitable for anchor R cartridges and clamping range max. for R cartridges	when using RSB cartridges **	min. anchoring depth mm for RSB cartridges and FSB mortar	max. clamping range mm for RSB cartridges and FSB mortar
M 8 x 110	10 mm	R M8 / 80 mm	R M8 / 14 mm	RSB 8	80 mm	14 mm
M10 x 130	12 mm	R M10 / 90 mm	R M10 / 20 mm	RSB 10	90 mm	20 mm
M10 x 130	12 mm			RSB 10 mini	75 mm	35 mm
M10 x 165	12 mm	R M10 / 90 mm	R M10 / 55 mm	RSB 10	90 mm	55 mm
M10 x 165	12 mm			RSB 10 mini	75 mm	70 mm
M10 x 190	12 mm	R M10 / 90 mm	R M10 / 80 mm	RSB 10	90 mm	80 mm
M10 x 190	12 mm			1 x RSB 10 mini	75 mm	95 mm
M10 x 190	12 mm			2 x RSB 10 mini	150 mm	20 mm
M12 x 160	14 mm	R M12 / 110 mm	R M12 / 26 mm	RSB 12	110 mm	26 mm
M12 x 160	14 mm			RSB 12 mini	75 mm	61 mm
M12 x 220	14 mm	R M12 / 110 mm	R M12 / 86 mm	RSB 12	110 mm	86 mm
M12 x 220	14 mm			1xRSB 12 mini	75 mm	121 mm
M12 x 220	14 mm			2xRSB 12 mini	150 mm	46 mm
M12 x 250	14 mm	R M12 / 110 mm	R M12 / 116 mm	RSB 12	110 mm	116 mm
M12 x 250	14 mm			1xRSB 12 mini	75 mm	151 mm
M12 x 250	14 mm			2xRSB 12 mini	150 mm	76 mm
M12 x 300	14 mm	R M12 / 110 mm	R M12 / 166 mm	RSB 12	110 mm	166 mm
M12 x 300	14 mm			1xRSB 12 mini	75 mm	201 mm
M12 x 300	14 mm			2xRSB 12 mini	150 mm	126 mm
M14 x 170 *	16 mm	R M14 / 120 mm	R M14 / 38 mm			
M16 x 165	18 mm	R M16 / 125 mm	R M16 / 8 mm	RSB 16	125 mm	8 mm
M16 x 165	18 mm			RSB 16 mini	95 mm	38 mm
M16 x 190	18 mm	R M16 / 125 mm	R M16 / 33 mm	RSB 16	125 mm	33 mm
M16 x 190	18 mm			RSB 16 mini	95 mm	63 mm
M16 x 250	18 mm	R M16 / 125 mm	R M16 / 93 mm	RSB 16	125 mm	93 mm
M16 x 250	18 mm			1xRSB 16 mini	95 mm	123 mm
M16 x 250	18 mm			2xRSB 16 mini	190 mm	28 mm
M16 x 300	18 mm	R M16 / 125 mm	R M16 / 143 mm	RSB 16	125 mm	143 mm
M16 x 300	18 mm			1xRSB 16 mini	95 mm	173 mm
M16 x 300	18 mm			2xRSB 16 mini	190 mm	78 mm
M20 x 260	25 mm	R M20 / 170 mm	R M20 / 54 mm	RSB 20	170 mm	54 mm
M20 x 260	25 mm			RSB 20E / 24	210 mm	14 mm
M20 x 350	25 mm	R M20 / 170 mm	R M20 / 124 mm	RSB 20	170 mm	144 mm
M20 x 350	25 mm			RSB 20E / 24	210 mm	104 mm
M22 x 280 *	30 mm	UKA22 / 190 mm	UKA22 / 65 mm			
M24 x 300	28 mm	R M24 / 210 mm	R M24 / 61 mm	RSB 20E / 24	210 mm	61 mm
M27 x 340	32 mm	R M27 / 250 mm	R M27 / 60 mm			
M30 x 380	35 mm	R M30 / 280 mm	R M30 / 65 mm	RSB 30	280 mm	65 mm

* M14 and M22 not part of the approval

** by using 2 mini cartridges, a higher anchoring depth is achieved and therefore higher load values.

Fischer RG MI internally threaded sleeve



Approved by the building authorities: Approved in conjunction with Fischer RG M reaction anchor for anchorings in non-cracked concrete M 8 - M 20 as well as in conjunction with FIS V injection mortar in non-cracked concrete M 6 - 20. As well as in conjunction with FIS Superbond, also for cracked concrete, European Technical Approval Option 1 ETA-12/0258.

Application: In conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB superbond injection mortar or RSB reaction cartridges, the Fischer RG MI internally threaded sleeves are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures that need to be disassembled again later.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer RG MI reaction anchor internally threaded sleeves are only approved in conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB injection mortar or Fischer RSB reaction cartridges. The cartridges and the mortar are not included in the price of the internally threaded sleeves.



DG 2165

galvanized

Item no.	Type	Thread	Hole Ø	mini- mum anchoring depth	suitable RSB cartridges and screw- in depth of screws in the sleeve min./ max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./ max. for R car- tridges and FIS V mortar	Price per 100 pieces	Pack- age con- tents
620316	RG 10 x 75 M6 I	M 6*	12 mm	75 mm	-	R M10 / 10 to 16 mm	•	10
620318	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203110	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203112	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10
6203116	RG 22 x 160 M16 I	M 16	24 mm	160 mm	RSB 16E / 16 to 35 mm	R M16E / 24 to 35 mm	•	5
6203120	RG 28 x 200 M20 I	M 20	32 mm	200 mm	RSB 20E/24 / 20 to 45 mm	R M20 / 30 to 45 mm	•	5

*) M 6 and are not included in the approval.

Stainless steel A4

DG 2165

Item no.	Type	Thread	Hole Ø	mini- mum anchoring depth	suitable RSB cartridges and screw- in depth of screws in the sleeve min./max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./max. for R cartridges and FIS V mortar	Price per piece	Pack- age con- tents
62058	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203210	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203212	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10

*) M 6 and are not included in the approval.

Fischer Superbond FIS SB 390 S injection mortar

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 30, ETA-12/0258-ETAG 001-5.

Application: The Fischer Superbond FIS SB 390 S injection mortar is used for the safety-related fastening of heavy objects in cracked and non-cracked concrete. Main application area is the attachment of heavy steel structures, railings, noise barriers, rebar connections as well as attachment in drying systems and much more.

Properties: In conjunction with anchor rods from M 8 to M 30 and internally threaded anchors from M 8 to M 20 (each in different materials) superbond offers versatile fastening possibilities.

The fastening system comprises FIS SB injection mortar, optionally with FIS A anchor rod, RG M anchor rod or RG MI internally threaded anchor.

Installation instructions: A gun with double rods (K&K item no. 6203531 or 620356) is required for applying the FIS SB injection mortar. The boreholes are to be cleaned thoroughly with a blower (K&K item no. 62034) and brush.

Advantages:

- particularly inexpensive all-around fastening in cracked concrete
- application temperature range of -40 °C to +150 °C
- independent of weather conditions, installation for injection mortar permitted up to -15 °C (temperature in the anchoring base)
- variable anchoring depth of 60 - 600 mm
- installation without a torque wrench and setting tool is permitted

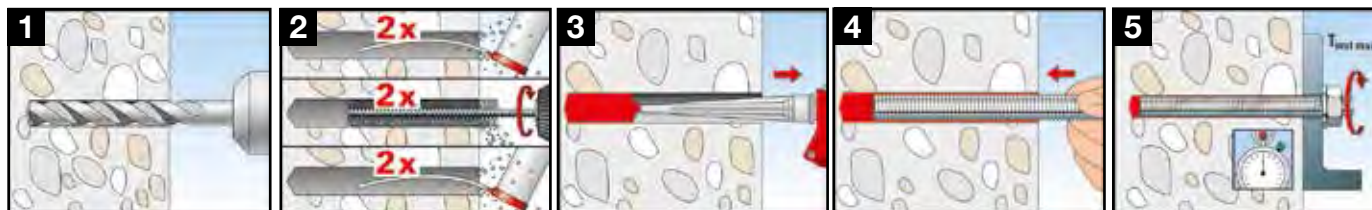
Note: The Fischer Superbond FIS SB injection mortar is also approved in conjunction with customary threaded rods with factory test 3.1. The anchor rods are not included in the price of the Fischer mortar cartridges. Every cartridge comes with 2 mixing tubes (K&K item no. 62884). For proper and compliant installation, cleaning tools, special application guns and mixing tubes are necessary.



DG 2134

Item no.	Type	Contents	Scale divisions	Price per piece	Package contents
62896390	FIS SB 390 S	390 ml	180	•	10

Temperature in the anchoring base	Curing times
> -15 °C to -10 °C	36 hours
> 0 °C to +5 °C	4 hours
> +20 °C to +30 °C	45 minutes



Fischer anchor rod FIS A



Application: Approved in conjunction with the Fischer FIS V injection mortar for fastening in non-cracked concrete, masonry and aerated concrete and in conjunction with FIS Powerbond with Powersleeve and FIS Superbond for cracked concrete.

Properties: Anchoring without expansion pressure in concrete, solid and perforated bricks results in conjunction with FIS V injection mortar for small axial and edge spacing.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Note: The Fischer FIS V injection mortar is only approved as a complete set (FIS V injection mortar - FIS A anchor rods and FIS anchor sleeves (only for use in perforated masonry)). The anchor rods with factor test 3.1 are an exception. The mortar cartridges and sieve sleeves are not included in the price of the injection mortar. Use in conjunction with Powerbond only with Powersleeve.



galvanized			DG 2147
Item no.	Thread Ø x length	Price per 100 pieces	Package contents
626868110	8 x 110 mm	•	10
626868130	8 x 130 mm	•	10
6268610110	10 x 110 mm	•	10
6268610130	10 x 130 mm	•	10
6268610150	10 x 150 mm	•	10
6268610200	10 x 200 mm	•	10
6268612120	12 x 120 mm	•	10
6268612140	12 x 140 mm	•	10
6268612160	12 x 160 mm	•	10
6268612180	12 x 180 mm	•	10
6268612210	12 x 210 mm	•	10



Stainless steel A4			DG 2154
Item no.	Thread Ø x length	Price per 100 pieces	Package contents
626878110	8 x 110 mm	•	10
626878130	8 x 130 mm	•	10
6268710110	10 x 110 mm	•	10
6268710130	10 x 130 mm	•	10
6268710150	10 x 150 mm	•	10
6268712120	12 x 120 mm	•	10
6268712140	12 x 140 mm	•	10
6268712160	12 x 160 mm	•	10
6268712210	12 x 210 mm	•	10
6268712260	12 x 260 mm	•	10

Anchor rod FIS A



Fischer FIS A anchor rods zinc-plated and stainless steel with Fischer FSB mortar in cracked and non-cracked concrete

Dimension mm	Hole Ø mm	Anchoring depth min/max mm	Max. clamping range depending on anchoring depth mm	Filling quantity * depending on anchoring depth
8 x 110	10	60 / 98	39	2 / 3
8 x 130	10	60 / 118	59	2 / 4
10 x 110	12	60 / 96	37	3 / 4
10 x 130	12	60 / 116	57	3 / 5
10 x 150	12	60 / 136	77	3 / 5
10 x 200	12	60 / 186	127	3 / 7
12 x 120	14	70 / 103	34	3 / 5
12 x 140	14	70 / 123	54	3 / 6
12 x 160	14	70 / 143	74	3 / 7
12 x 180	14	70 / 163	94	3 / 7
12 x 210	14	70 / 193	124	3 / 9
12 x 260	14	70 / 240	174	3 / 19

* Number of scale marks on the Fischer mortar cartridge

Fischer FIS A anchor rods zinc-plated and stainless steel with Fischer FIS V and FIS V High Speed in solid brick masonry

Dimension mm	Hole Ø mm	Min. anchoring depth mm	Max. clamping range depending on anchoring depth mm	Filling quantity * at min. anchoring depth
8 x 110	10	75	24	3
8 x 130	10	75	44	3
10 x 110	12	75	22	4
10 x 130	12	75	42	4
10 x 150	12	75	62	4
10 x 200	12	75	112	4
12 x 120	14	75	29	5
12 x 140	14	75	44	5
12 x 160	14	75	64	5
12 x 180	14	75	84	5
12 x 210	14	75	114	5
12 x 260	14	75	164	5

* Number of scale marks on the Fischer mortar cartridge

Fischer FIS A anchor rods zinc-plated and stainless steel with Fischer FIS V and FIS V High Speed in aerated concrete

Dimension mm	Hole Ø mm	Min. anchoring depth mm	Max. clamping range depending on anchoring depth mm	Filling quantity * at min. anchoring depth
8 x 110	14	75	25	15
8 x 130	14	75	45	15
10 x 110	14	75	25	15
10 x 130	14	75	45	15
10 x 150	14	75	65	15
10 x 200	14	75	115	15
12 x 120	14	75	30	15
12 x 140	14	75	50	15
12 x 160	14	75	70	15
12 x 180	14	75	90	15
12 x 210	14	75	115	15
12 x 260	14	75	170	15

* Number of scale marks on the Fischer mortar cartridge

Fischer FIS A anchor rods zinc-plated and stainless steel with Fischer FIS V and FIS V High Speed in non-cracked concrete

Dimension mm	Hole Ø mm	Anchoring depth mm	Max. clamping range depending on anchoring depth mm	Filling quantity * at min. anchoring depth
8 x 110	10	60	36	2
8 x 130	10	60	56	2
10 x 110	12	60	20	3
10 x 130	12	60	40	3
10 x 150	12	60	60	3
10 x 200	12	60	110	3
12 x 120	14	70	19	4
12 x 140	14	70	39	4
12 x 160	14	70	59	4
12 x 180	14	70	79	4
12 x 210	14	70	109	4
12 x 260	14	70	159	4

* Number of scale marks on the Fischer mortar cartridge

Fischer FIS A anchor rods zinc-plated and stainless steel with Fischer FIS V and FIS V High Speed in perforated brick masonry

Dimension mm	with injection anchor sleeve	Hole Ø mm	Min. anchoring depth mm	Max. clamping range depending on anchoring depth mm
8 x 110	FIS H12 x 50K	12	50	49
8 x 110	FIS H12 x 85K	12	85	14
8 x 110	FIS H16 x 85K	16	85	14
8 x 130	FIS H12 x 50K	12 to 16	50	69
8 x 130	FIS H12 x 85K	12 to 16	85	34
8 x 130	FIS H16 x 85K	12 to 16	85	43
10 x 110	FIS H16 x 85K	16	85	12
10 x 130	FIS H16 x 85K	16	85	32
10 x 150	FIS H16 x 85K	16	85	52
10 x 150	FIS H16 x 130K	16	130	7
10 x 200	FIS H16 x 85K	16	85	102
10 x 200	FIS H16 x 130K	16	130	57
12 x 120	FIS H20 x 85K	20	85	19
12 x 140	FIS H20 x 85K	20	85	39
12 x 160	FIS H20 x 85K	20	85	59
12 x 160	FIS H20 x 130K	20	130	14
12 x 180	FIS H20 x 85K	20	85	79
12 x 180	FIS H20 x 130K	20	130	34
12 x 210	FIS H20 x 85K	20	85	109
12 x 210	FIS H20 x 130K	20	130	64
12 x 260	FIS H20 x 85K	20	85	169
12 x 260	FIS H20 x 130K	20	130	114
12 x 260	FIS H20 x 200K	20	200	44

For filling quantities, see injection anchor sleeves

Fischer RG MI internally threaded sleeve



Approved by the building authorities: Approved in conjunction with Fischer R M reaction anchor for anchorings in non-cracked concrete M 8 - M 20 as well as in conjunction with FIS V injection mortar in non-cracked concrete M 6 - M 20. As well as in conjunction with FIS Superbond, also for cracked concrete, European Technical Approval Option 1 ETA-12/0258.

Application: In conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB superbond injection mortar or RSB reaction cartridges, the Fischer RG MI internally threaded sleeves are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures that need to be disassembled again later.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer RG MI reaction anchor internally threaded sleeves are only approved in conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB injection mortar or Fischer RSB reaction cartridges. The cartridges and the mortar are not included in the price of the internally threaded sleeves.



DG 2165

galvanized

Item no.	Type	Thread	Hole Ø	Minimum anchoring depth	suitable RSB cartridges and screw-in depth of screws in the sleeve min./max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./max. for R cartridges and FIS V mortar	Price per 100 pieces	Package contents
620316	RG 10 x 75 M6 I	M 6*	12 mm	75 mm	-	R M10 / 10 to 16 mm	•	10
620318	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203110	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203112	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10
6203116	RG 22 x 160 M16 I	M 16	24 mm	160 mm	RSB 16E / 16 to 35 mm	R M16E / 24 to 35 mm	•	5
6203120	RG 28 x 200 M20 I	M 20	32 mm	200 mm	RSB 20E/24 / 20 to 45 mm	R M20 / 30 to 45 mm	•	5

*) M 6 and are not included in the approval.

Stainless steel A4

DG 2165

Item no.	Type	Thread	Hole Ø	Minimum anchoring depth	suitable RSB cartridges and screw-in depth of screws in the sleeve min./max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./max. for R cartridges and FIS V mortar	Price per piece	Package contents
62058	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203210	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203212	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10

*) M 6 and are not included in the approval.

Fischer R reaction anchor

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 8 to M 30, approval no. ETA-08/0010 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529.

Application: The Fischer R reaction anchors are used to fasten heavy objects in concrete. Main application areas include heavy metal constructions of all kinds, facade substructures (threaded rod A4), noise barriers, guardrails, machinery, devices and much more. Insert the mortar cartridges into the well-cleaned borehole and then insert the anchor rods with a rotating and hammering machine. The two components are mixed into a rapidly curing synthetic resin mortar and the entire surface of anchor rod is bonded.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer reaction anchor rods are only approved in conjunction with Fischer RM reaction anchor cartridges. The RM anchor rods are not included in the price of the cartridges. The boreholes must be free of dust.



Note: Sales stop within the catalog's period of validity. An alternative is the RSB mortar cartridge (page 838), which has clear advantages in the area of approval and application.



DG 2136

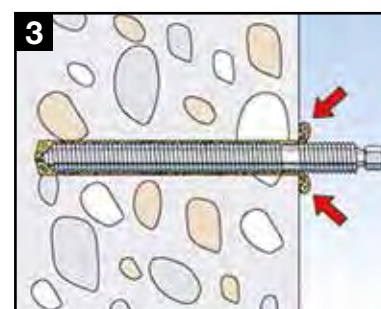
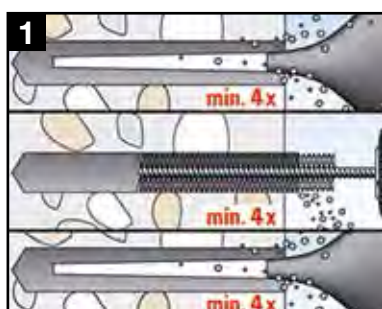
Item no.	Thread	Drill Ø	Anchoring depth	Price per 100 pieces	Package contents
625508	M 8	10 mm	80 mm	•	10
6255010	M 10	12 mm	90 mm	•	10
6255012	M12	14 mm	110 mm	•	10
6255014	M 14 **	16 mm	120 mm	•	10
6255016	M 16	18 mm	125 mm	•	10
6255416	E - M 16 *	18 / 20 mm	190 mm	•	10
6255020	M 20	25 mm	170 mm	•	10
6202422	M 22 **	30 mm	190 mm	•	5
6255024	M 24	28 mm	210 mm	•	5
6255027	M 27	32 mm	250 mm	•	5
6255030	M 30	35 mm	280 mm	•	5

*) If the E cartridge is not used in conjunction with internally threaded sleeve M 12, then a hole 20 mm in diameter must be drilled.

**) M 14 and M 22 are not included in the approval (except for M 14 in conjunction with the internally threaded sleeve M 10, this anchoring is then approved again).
M 22 is type UKA 3 by Upat.

Temperature in the borehole	Curing times
> +20 °C	10 minutes
> +10 °C	20 minutes
> 0 °C	45 minutes
> - 5 °C	240 minutes

The curing time is extended if there is moisture in the borehole.



Fischer anchor rod for reaction anchor



Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 8 to M 30, approval no. ETA-08/0010 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Also suitable for cracked concrete in conjunction with FIS Powerbond (with Powersleeve) and FIS Superbond European Technical Approval Option 1 ETA-12/0160 and ETA-12/0258.

Application: The Fischer RG M reaction anchor rods are used in conjunction with Fischer R M reaction anchor cartridges for fastening heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, noise barriers, guardrails and much more.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer RG M reaction anchor rods are only approved in conjunction with Fischer R M reaction anchor cartridges. The anchor rods are not included in the price of the cartridges. All threaded rods have a hexagonal head as an insertion aid up to and including size 16, as well as size M 20 x 260. An adapter comes with every pack. All dimensions are cut off smoothly starting from anchor rod 20 x 350. Use in conjunction with Powerbond only with Powersleeve.



DG 2147

galvanized				
Item no.	Thread Ø x length	Hole Ø	Price per 100 pieces	Package contents
625518	M 8 x 110 mm	10.0 mm	•	10
6255110	M 10 x 130 mm	12.0 mm	•	10
6255110165	M 10 x 165 mm	12.0 mm	•	10
6255110190	M 10 x 190 mm	12.0 mm	•	10
6255112	M 12 x 160 mm	14.0 mm	•	10
6255112220	M 12 x 220 mm	14.0 mm	•	10
6255112250	M 12 x 250 mm	14.0 mm	•	10
6255112300	M 12 x 300 mm	14.0 mm	•	10
6255114	M 14 x 170* mm	16.0 mm	•	10
6255116165	M 16 x 165 mm	18.0 mm	•	10
6255116	M 16 x 190 mm	18.0 mm	•	10
6255116250	M 16 x 250 mm	18.0 mm	•	10
6255116300	M 16 x 300 mm	18.0 mm	•	10
6255120	M 20 x 260 mm	25.0 mm	•	10
6255120350	M 20 x 350 mm	25.0 mm	•	10
6202622	M 22 x 280* mm	30.0 mm	•	5
6255124300	M 24 x 300 mm	28.0 mm	•	10
6255127340	M 27 x 340 mm	32.0 mm	•	5
6255130380	M 30 x 380 mm	35.0 mm	•	5



Stainless steel A4

DG 2154

Item no.	Thread Ø x length	Hole Ø	Price per 100 pieces	Package contents
625538110	M 8 x 110 mm	10.0 mm	•	10
6255310130	M 10 x 130 mm	12.0 mm	•	10
6255310165	M 10 x 165 mm	12.0 mm	•	10
6255310190	M 10 x 190 mm	12.0 mm	•	10
6255312160	M 12 x 160 mm	14.0 mm	•	10
6255316190	M 16 x 190 mm	18.0 mm	•	10
6255320260	M 20 x 260 mm	25.0 mm	•	10

*) not included in the approval.

Fischer RG MI internally threaded sleeve

Approved by the building authorities: Approved in conjunction with Fischer R M reaction anchor for anchorings in non-cracked concrete M8 - M20 as well as in conjunction with FIS V injection mortar in non-cracked concrete M6 - M20. As well as in conjunction with FIS Superbond, also for cracked concrete, European Technical Approval Option 1 ETA-12/0258.

Application: In conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB superbond injection mortar or RSB reaction cartridges, the Fischer RG MI internally threaded sleeves are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures that need to be disassembled again later.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer RG MI reaction anchor internally threaded sleeves are only approved in conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB injection mortar or Fischer RSB reaction cartridges. The cartridges and the mortar are not included in the price of the internally threaded sleeves.



galvanized

DG 2165

Item no.	Type	Thread	Hole Ø	mini- mum an- choring depth	suitable RSB cartridges and screw- in depth of screws in the sleeve min./ max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./ max. for R car- tridges and FIS V mortar	Price per 100 pieces	Package contents
620316	RG 10 x 75 M6 I	M 6*	12 mm	75 mm	-	R M10 / 10 to 16 mm	•	10
620318	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203110	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203112	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10
6203116	RG 22 x 160 M16 I	M 16	24 mm	160 mm	RSB 16E / 16 to 35 mm	R M16E / 24 to 35 mm	•	5
6203120	RG 28 x 200 M20 I	M 20	32 mm	200 mm	RSB 20E/24 / 20 to 45 mm	R M20 / 30 to 45 mm	•	5

*) M 6 and are not included in the approval.

Stainless steel A4

DG 2165

Item no.	Type	Thread	Hole Ø	mini- mum an- choring depth	suitable RSB cartridges and screw- in depth of screws in the sleeve min./max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./max. for R cartridges and FIS V mortar	Price per piece	Package contents
62058	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203210	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203212	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10

*) M 6 and are not included in the approval.

① Loads for R reaction anchor with Fischer RG M anchor rod

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Anchor rod material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. tensile load without edge influences	min. axial spacing	min. edge spacing
R with Fischer anchor rod RG M		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{or} [mm]	s_{min} [mm]	c_{min} [mm]
RG M 8	gzp., 5.8	$h_{ef} = 80$	110	≤ 10	8.8	4.2	100	60	240	40	40
	gzp., 8.8				8.8	6.5		85			
	A4-70				8.8	5.9		75			
RG M 10	gzp., 5.8	$h_{ef} = 90$	120	≤ 20	12.3	7.6	135	90	270	45	45
	gzp., 8.8				12.3	11.7		150			
	A4-70				12.3	9.3		115			
RG M 12	gzp., 5.8	$h_{ef} = 110$	150	≤ 40	19.7	11.0	150	115	330	55	55
	gzp., 8.8				19.7	17.0		190			
	A4-70				19.7	13.5		145			
RG M 12 E	gzp., 5.8	$h_{ef} = 150$	200	≤ 40	21.1	11.0	105	105	450	75	75
	gzp., 8.8				26.9	17.0	140	150			
	A4-70				22.5	13.5	110	120			
RG M 16	gzp., 5.8	$h_{ef} = 125$	160	≤ 60	28.4	20.5	235	215	375	65	65
	gzp., 8.8				28.4	31.5		350			
	A4-70				28.4	25.1		270			
RG M 16 E	gzp., 5.8	$h_{ef} = 190$	250	≤ 60	39.3	20.5	175	155	570	95	95
	gzp., 8.8				43.2	31.5	210	250			
	A4-70				45.8	32.0	305	270			
RG M 20	gzp., 5.8	$h_{ef} = 170$	220	≤ 120	45.8	49.3		450	510	85	85
	gzp., 8.8				45.8	39.2		345			
	A4-70				60.9	32.0	265	205			
RG M 20 E	gzp., 5.8	$h_{ef} = 240$	300	≤ 120	64.6	49.3	290	350	720	120	120
	gzp., 8.8				64.1	46.1	365	335			
	A4-70				64.1	70.9		430			
RG M 24	gzp., 5.8	$h_{ef} = 210$	280	≤ 150	87.7	46.1	340	255	870	145	145
	gzp., 8.8				88.5	70.9	345	440			
	A4-70				85.8	60.1	420	395			
RG M 24 E	gzp., 5.8	$h_{ef} = 290$	380	≤ 150	85.8	92.4		670	990	125	125
	gzp., 8.8				85.8	73.6		510			
	A4-70				100.5	73.3	465	450			
RG M 27	gzp., 5.8	$h_{ef} = 250$	330	≤ 200	100.5	112.7		765	1.110	140	140
	gzp., 8.8				100.5	89.8		580			
	A4-70				100.5	89.8		580			

The entire ETA - 108/0010 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration. A dowel with axial spacing of $s \geq 3 \times h_{ef}$, for example, is considered a single dowel. For specific information, see the approval notice. The specified loads are valid for the anchorings in dry and damp concrete for temperatures in the anchoring base from -40°C to $+50^\circ\text{C}$ (or in the short-term to $+80^\circ\text{C}$) and premium cleaning according to the approval notice.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths up to C50/60, permissible loads up to 35% higher are possible. See approval. The concrete is assumed to be normally reinforced unreinforced.

Continued on the next page

① Loads for R reaction anchor with Fischer RG M I internally threaded anchor

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Anchor rod material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary edge spacing (at an edge) for max. load.		necessary axial spacing for max. tensile load without edge influences	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	N_{perm} [kN]	V_{perm} [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
RG M 8 I	gzp., 5.8	$h_{ef} = 90$	120	≤ 10	9.1	5.3	75	65	270	45	45
	gzp., 8.8				13.8	8.2	140	95			
RG M 8 I A4	A4-70	$h_{ef} = 90$	120	≤ 20	9.9	5.9	85	70	275	45	45
RG M 10 I	gzp., 5.8				14.4	8.5	165	95			
RG M 10 I A4	gzp., 8.8				16.7	13.0	195	155			
	A4-70				15.7	9.3	185	105			
RG M 12 I	gzp., 5.8	$h_{ef} = 125$	170	≤ 40	21.1	12.3	180	110	375	60	60
	gzp., 8.8				23.8	18.9	210	180			
RG M 12 I A4	A4-70	$h_{ef} = 160$	220	≤ 60	22.5	13.5	200	120	500	80	80
RG M 16 I	gzp., 5.8				35.7	22.8	250	175			
	gzp., 8.8				35.7	35.1		300			
RG M 16 I A4	A4-70				35.7	25.1	305	200			
RG M 20 I	gzp., 5.8	$h_{ef} = 200$	270	≤ 120	54.8	35.7		245	610	100	100
	gzp., 8.8				54.8	64.9		420			
RG M 20 I A4	A4-70	$h_{ef} = 200$	270	≤ 120	54.8	39.2	305	275			
RG M 20 I A4	gzp., 5.8				54.8	39.2		275			
	gzp., 8.8				54.8	64.9		420			

The entire ETA - 108/0010 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration. A dowel with axial spacing of $s \geq 3 \times h_{ef}$, for example, is considered a single dowel. For specific information, see the approval notice. The specified loads are valid for the anchorings in dry and damp concrete for temperatures in the anchoring base from -40 °C to +50 °C (or in the short-term to +80 °C) and premium cleaning according to the approval notice.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths up to C50/60, permissible loads up to 35% higher are possible. See approval. The concrete is assumed to be normally reinforced unreinforced.

Fischer FIS V 360 S injection mortar

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 30, approval no. ETA-02/0024 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Building Standards Approval Z-21.3-1824 for solid and perforated masonry M 6 to M 16 and aerated concrete M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4 as well as the approval ETA-10/0383 for many additional new types of stone.

Application: The Fischer FIS V injection mortar based on vinyl ester resin is used to fasten medium-weight to heavy objects in masonry, solid and perforated brick, aerated concrete, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main areas of application include heavy metal structures of all kinds, facade substructures, machinery, devices and much more. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: The Fischer FIS V injection mortar is based on styrene-free vinyl ester resin. Free of expansion pressure, for small axial and edge spacing. Each mortar cartridge comes with 2 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. The hardener is attached in a separate tube on the outside. A gun with 2 plungers item no. 6203531 or item no. 620356 is required for dispensing. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1

Note: The Fischer injection system is only permitted in conjunction with FIS-A anchor rods or anchor rods with factory test 3.1 and for use in perforated masonry with FIS anchor sleeves. The anchor rods and sieve sleeves are not included in the price of the Fischer injection system. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.

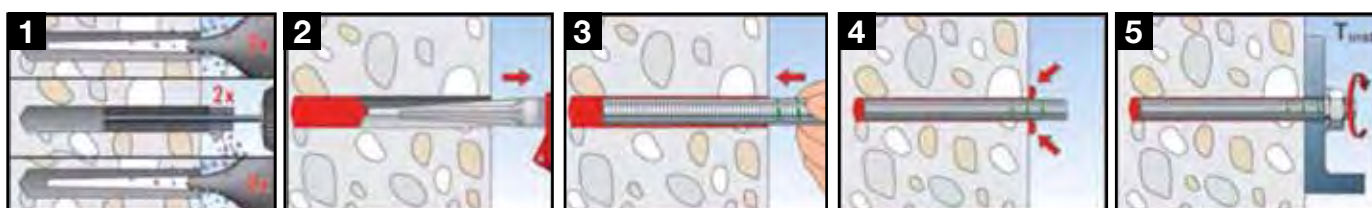


DG 2134

Item no.	Cartridge contents	Price per piece	Package contents
6203526	560g = 360 cm ³	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes



Fischer injection mortar FIS V 360 S - Set

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 30, approval no. ETA-02/0024 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Building Standards Approval Z-21.3-1824 for solid and perforated masonry M 6 to M 16 and aerated concrete M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4 as well as the approval ETA-10/0383 for many additional new types of stone.

Application: The Fischer FIS V injection mortar is used to fasten medium-weight to heavy objects in masonry, solid and perforated brick, aerated concrete, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main areas of application include heavy metal structures of all kinds, facade substructures, machinery, devices and much more. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: The Fischer FIS V injection mortar is based on styrene-free vinyl ester resin. Free of expansion pressure, for small axial and edge spacing. Each mortar cartridge comes with 2 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1

Note: The Fischer injection mortar is only permitted in conjunction with FIS A threaded rods or threaded rods with factory test 3.1 and for use in perforated masonry with FIS-H anchor sleeves. The threaded rods and anchor sleeves are not included in the price of the Fischer injection mortar. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.

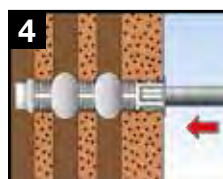
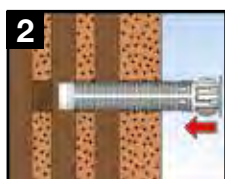
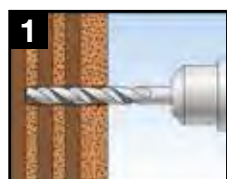


DG 2134

Item no.	Cartridge contents	Set contents	Price per set	Package contents
6203528	560g = 360 cm ³	20 Cartridges, 40 Static mixer	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes



Fischer injection mortar FIS V 360 S - system case



Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 30, approval no. ETA-02/0024 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Building Standards Approval Z-21.3-1824 for solid and perforated masonry M 6 to M 16 and aerated concrete. M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4 as well as the approval ETA-10/0383 for many additional new types of stone.

Application: The Fischer FIS V injection mortar is used to fasten medium-weight to heavy objects in masonry, solid and perforated brick, aerated concrete, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main areas of application include heavy metal structures of all kinds, facade substructures, machinery, devices and much more. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: The Fischer FIS V injection mortar is based on styrene-free vinyl ester resin. Free of expansion pressure, for small axial and edge spacing. Each mortar cartridge comes with 2 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Scope of supply: 3 Cartridges, 6 mixing tubes, 1 FIK AK application gun, 1 blower, 1 set of brushes

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1

Note: The Fischer injection mortar is only permitted in conjunction with FIS A threaded rods or threaded rods with factory test 3.1 and for use in perforated masonry with FIS-H anchor sleeves. The threaded rods and anchor sleeves are not included in the price of the Fischer injection mortar. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.

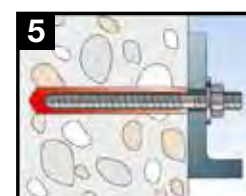
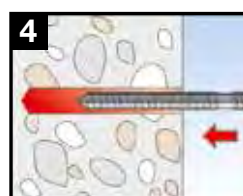
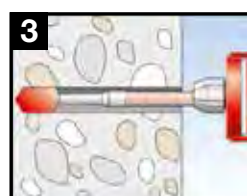
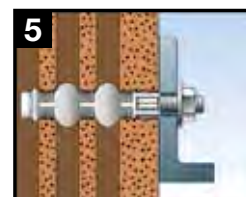
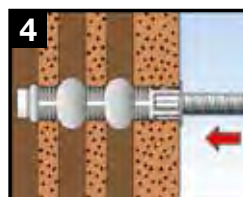
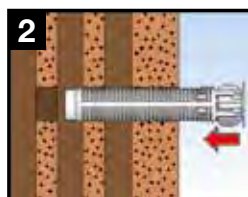
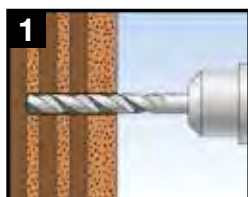


DG 2134

Item no.	Type	Contents	Price per case	Package contents
6203529	FIS V 360 S shuttle cartridge	12 pieces	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes



Fischer injection mortar FIS V 150 C

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 30, approval no. ETA-02/0024 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Building Standards Approval Z-21.3-1824 for solid and perforated masonry M 6 to M 16 and aerated concrete. M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4.

Application: The Fischer FIS V injection mortar is used to fasten medium-weight to heavy objects in masonry, solid and perforated brick, aerated concrete, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main areas of application include heavy metal structures of all kinds, facade substructures, machinery, devices and much more. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: The Fischer FIS V injection mortar is based on styrene-free vinyl ester resin. Free of expansion pressure, for small axial and edge spacing. Each mortar cartridge comes with 2 mixing tubes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits short distances
- also approved for the use of customary threaded rods with factory test 3.1

Note: The Fischer injection mortar is only permitted in conjunction with FIS A threaded rods or threaded rods with factory test 3.1 and for use in perforated masonry with FIS-H anchor sleeves. The threaded rods and anchor sleeves are not included in the price of the Fischer injection mortar. For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.



DG 2134

Item no.	Cartridge contents	Scope of supply	Price per piece	Package contents
6203527	145 ml	1 Mortar cartridge, 1 Application plunger, 2 static mixer	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes



Fischer injection mortar FIS V HIGH SPEED

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 30, approval no. ETA-02/0024 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Approval no. Z-21.3-1824 for solid and perforated masonry M 6 to M 16 and aerated concrete. M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4 as well as the approval ETA-10/0383 for many additional new types of stone.

Application: The Fischer FIS V HIGH SPEED injection mortar based on vinyl ester resin is used to fasten medium-weight to heavy objects in masonry, solid and perforated brick, aerated concrete, lime sand, solid and perforated masonry as well as in non-cracked concrete. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: The Fischer FIS V HIGH SPEED injection mortar is based on styrene-free vinyl ester resin. Free of expansion pressure, for small axial and edge spacing. Each mortar cartridge comes with 2 mixing tubes. Thanks to the special formula, the mortar can also be used at extreme winter temperatures of -15 °C. At warmer temperatures, a shorter processing time must be taken into account.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower (item no. 62034) and cleaning brush. A gun with 2 plungers (item no. 6203531 or item no. 620356) is required for application.

Advantages:

- more rapid curing and load-bearing capacity
- hardly any limitations at cold temperatures
- also approved for the use of customary threaded rods with factory test 3.1

Note: The Fischer injection system is approved in conjunction with FIS-A anchor rods, RG MI internally threaded anchors, anchor rods with factory test 3.1 and for use in perforated masonry FIS anchor sleeves. The anchor rods, internally threaded anchors and sieve sleeves are not included in the price of the Fischer injection system.



DG 2134

Item no.	Contents	Price per piece	Package contents
629557010	360 ml	•	1

Item accessories

Item no.	Description	Price
62741	Fischer tapered drill bit PBB	•

Temperature in the anchoring base	Processing time	Curing times in dry concrete
-15 °C to -10 °C	-	12 hours*
-10 °C to -5 °C	-	8 hours*
-5 °C to +5 °C	5 minutes	3 hours
0 °C to -5 °C	5 minutes	90 minutes
+5 °C to +10 °C	3 minutes	45 minutes
+10 °C to +20 °C	1 minute	30 minutes

*) without approval

Fischer anchor rod FIS A



Application: Approved in conjunction with the Fischer FIS V injection mortar for fastening in non-cracked concrete, masonry and aerated concrete and in conjunction with FIS Powerbond with Powersleeve and FIS Superbond for cracked concrete.

Properties: Anchoring without expansion pressure in concrete, solid and perforated bricks results in conjunction with FIS V injection mortar for small axial and edge spacing.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush. Installation only permitted with torque wrench.

Note: The Fischer FIS V injection mortar is only approved as a complete set (FIS V injection mortar - FIS A anchor rods and FIS anchor sleeves (only for use in perforated masonry)). The anchor rods with factor test 3.1 are an exception. The mortar cartridges and sieve sleeves are not included in the price of the anchor rods. Use in conjunction with Powerbond only with Powersleeve.



galvanized

DG 2147

Item no.	Thread Ø x length	Price per 100 pieces	Package contents
626868110	8 x 110 mm	•	10
626868130	8 x 130 mm	•	10
6268610110	10 x 110 mm	•	10
6268610130	10 x 130 mm	•	10
6268610150	10 x 150 mm	•	10
6268610200	10 x 200 mm	•	10
6268612120	12 x 120 mm	•	10
6268612140	12 x 140 mm	•	10
6268612160	12 x 160 mm	•	10
6268612180	12 x 180 mm	•	10
6268612210	12 x 210 mm	•	10



Stainless steel A4

DG 2154

Item no.	Thread Ø x length	Price per 100 pieces	Package contents
626878110	8 x 110 mm	•	10
626878130	8 x 130 mm	•	10
6268710110	10 x 110 mm	•	10
6268710130	10 x 130 mm	•	10
6268710150	10 x 150 mm	•	10
6268712120	12 x 120 mm	•	10
6268712140	12 x 140 mm	•	10
6268712160	12 x 160 mm	•	10
6268712210	12 x 210 mm	•	10
6268712260	12 x 260 mm	•	10

Fischer RG MI internally threaded sleeve



Approved by the building authorities: Approved in conjunction with Fischer R M reaction anchor for anchorings in non-cracked concrete M8 - M20 as well as in conjunction with FIS V injection mortar in non-cracked concrete M6 - M20. As well as in conjunction with FIS Superbond, also for cracked concrete, European Technical Approval Option 1 ETA-12/0258.

Application: In conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB superbond injection mortar or RSB reaction cartridges, the Fischer RG MI internally threaded sleeves are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures that need to be disassembled again later.

Properties: Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Advantages:

- anchoring without expansion pressure
- small axial and edge spacing
- boreholes are sealed against moisture and weather effects
- can also be used in wet concrete and even under water

Note: Fischer RG MI reaction anchor internally threaded sleeves are only approved in conjunction with Fischer R M reaction anchor cartridges, Fischer FIS V injection mortar, Fischer FIS SB injection mortar or Fischer RSB reaction cartridges. The cartridges and the mortar are not included in the price of the internally threaded sleeves.



galvanized

DG 2165

Item no.	Type	Thread	Hole Ø	mini- mum anchoring depth	suitable RSB cartridges and screw- in depth of screws in the sleeve min./ max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./ max. for R car- tridges and FIS V mortar	Price per 100 pieces	Package contents
620316	RG 10 x 75 M6 I	M 6*	12 mm	75 mm	-	R M10 / 10 to 16 mm	•	10
620318	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203110	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203112	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10
6203116	RG 22 x 160 M16 I	M 16	24 mm	160 mm	RSB 16E / 16 to 35 mm	R M16E / 24 to 35 mm	•	5
6203120	RG 28 x 200 M20 I	M 20	32 mm	200 mm	RSB 20E/24 / 20 to 45 mm	R M20 / 30 to 45 mm	•	5

*) M 6 and are not included in the approval.

Stainless steel A4

DG 2165

Item no.	Type	Thread	Hole Ø	mini- mum anchoring depth	suitable RSB cartridges and screw- in depth of screws in the sleeve min./max. for RSB cartridges and FSB mortar	suitable R cartridges and screw-in depth of screws in the sleeve min./max. for R cartridges and FIS V mortar	Price per piece	Package contents
62058	RG 12 x 90 M8 I	M 8	14 mm	90 mm	RSB 10 / 8 to 18 mm	R M12 / 12 to 18 mm	•	10
6203210	RG 16 x 90 M10 I	M 10	18 mm	90 mm	RSB 12 / 10 to 23 mm	R M14 / 15 to 23 mm	•	10
6203212	RG 18 x 125 M12 I	M 12	20 mm	125 mm	RSB 16 / 12 to 26 mm	R M16E / 18 to 26 mm	•	10

*) M 6 and are not included in the approval.

Continued on the next page

① Loads for FIS V and FIS V HIGH SPEED injection system with Fischer FIS A / RG M anchor rods

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ⁴⁾ (~B25)								minimum spacing while the load is simultaneously reduced	
Type	Anchor rod material	effective anchoring depth	installation torque	permissible tensile load	permissible transverse load	necessary axial spacing for max. tensile load without edge influences	minimum component thickness	min. axial spacing	min. edge spacing
FIS V and FIS V High Speed with Fischer anchor rod		$h_{ef}^{3)}$ [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	s_{cr} [mm]	h_{min} [mm]	s_{min} [mm]	c_{min} [mm]
M 6	gzp., 5.8	$h_{ef, min} = 50$	≤ 5	3.4	2.9	150	100	40	40
	gzp., 8.8				4.6				
	A4-70				3.2				
	gzp., 5.8	$h_{ef, max} = 72$		4.8	2.9	216	102	40	40
	gzp., 8.8				4.6				
	A4-70				3.2				
M 8	gzp., 5.8	$h_{ef, min} = 60$	≤ 10	6.6	5.1	180	100	40	40
	gzp., 8.8				9.1				
	A4-70				6.0				
	gzp., 5.8	$h_{ef, max} = 160$		9.0	5.1	480	190	40	40
	gzp., 8.8				9.1				
	A4-70				6.0				
M 10	gzp., 5.8	$h_{ef, min} = 60$	≤ 20	8.2	8.6	180	100	45	45
	gzp., 8.8				13.1				
	A4-70				9.2				
	gzp., 5.8	$h_{ef, max} = 200$		13.8	8.6	600	230	45	45
	gzp., 8.8				13.1				
	A4-70				9.2				
M 12	gzp., 5.8	$h_{ef, min} = 70$	≤ 40	11.5	12.0	210	100	55	55
	gzp., 8.8				19.4				
	A4-70				13.7				
	gzp., 5.8	$h_{ef, max} = 240$		20.5	12.0	720	270	55	55
	gzp., 8.8				19.4				
	A4-70				13.7				
M 16	gzp., 5.8	$h_{ef, min} = 80$	≤ 60	14.3	22.3	240	116	65	65
	gzp., 8.8				34.4				
	A4-70				25.2				
	gzp., 5.8	$h_{ef, max} = 320$		37.6	22.3	960	356	65	65
	gzp., 8.8				60.0				
	A4-70				42.0				
M 20	gzp., 5.8	$h_{ef, min} = 90$	≤ 120	17.1	34.9	270	138	85	85
	gzp., 8.8				41.1				
	A4-70				39.4				
	gzp., 5.8	$h_{ef, max} = 400$		58.6	34.9	1.200	448	85	85
	gzp., 8.8				93.3				
	A4-70				65.7				
M 24	gzp., 5.8	$h_{ef, min} = 96$	≤ 150	18.8	45.2	288	152	105	105
	gzp., 8.8				50.9				
	A4-70				80.6				
	gzp., 5.8	$h_{ef, max} = 480$		84.3	80.6	1.440	536	105	105
	gzp., 8.8				94.3				
	A4-70				56.8				
M 30	gzp., 5.8	$h_{ef, min} = 120$	≤ 300	26.3	63.2	360	190	140	140
	gzp., 8.8				80.6				
	A4-70				128.5				
	gzp., 5.8	$h_{ef, max} = 600$		133.8	128.5	1.800	670	140	140
	gzp., 8.8				90.2				
	A4-70				90.2				

The entire ETA - 02/0024 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration. A dowel with axial spacing of $s \geq 3 \times h_{ef}$, for example, is considered a single dowel. For specific information, see the approval notice. The specified loads are valid for the anchorings in dry and wet concrete for temperatures in the anchoring base from -40°C to $+50^\circ\text{C}$ (or in the short-term to $+80^\circ\text{C}$) and borehole cleaning according to the approval notice.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) The anchoring depth h_{ef} can be selected freely between the values $h_{ef, min}$ and $h_{ef, max}$ according to the static requirements.
- 4) At higher concrete strengths up to C50/60, higher permissible loads are possible if concrete cone failure is standard. See approval.

① Loads for FIS V and FIS V HIGH SPEED injection system with RG M I internally threaded anchor

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 ³⁾ (–B25)								minimum spacing while the load is simultaneously reduced	
Type	Screw material	effective anchoring depth	minimum component thickness	installation torque	permissible tensile load	permissible transverse load	necessary axial spacing for max. tensile load without edge influences	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
FIS V or FIS V High Speed with Fischer internally threaded anchor									
RG M 8 I	gzp., 8.8	90	120	≤ 10	11.9	8.5	270	40	40
RG M 8 I A4	A4-70				9.9	5.9			
RG M 10 I	gzp., 8.8	90	125	≤ 20	15.9	13.3	270	45	45
RG M 10 I A4	A4-70				15.7	9.3			
RG M 12 I	gzp., 8.8	125	165	≤ 40	19.8	19.3	375	60	60
RG M 12 I A4	A4-70					13.5			
RG M 16 I	gzp., 8.8	160	205	≤ 80	29.8	35.8	480	80	80
RG M 16 I A4	A4-70					25.1			
RG M 20 I	gzp., 8.8	200	260	≤ 120	45.6	42.9	600	125	125
RG M 20 I A4	A4-70					39.4			

The entire ETA - 02/0024 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration. A dowel with axial spacing of $s \geq 3 \times h_{ef}$, for example, is considered a single dowel. For specific information, see the approval notice. The specified loads are valid for the anchorings in dry and wet concrete for temperatures in the anchoring base from -40 °C to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval notice.
- 2) A detailed dowel measurement, e.g. with the dimensioning software Compufix, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths up to C50/60, higher permissible loads are possible up to 35% if concrete cone failure is standard. See approval.

① Loads for FIS V and FIS V HIGH SPEED injection system with FIS A⁵⁾ anchor rod or FIS E⁵⁾ internally threaded anchor with FIS H...K anchor sleeves

Very high permissible loads¹⁶⁾ of a single dowel in perforated brick masonry

								Solid masonry		
Type	Anchoring base strength class	effective anchoring depth ⁴⁾	minimum component thickness ⁹⁾	installation torque ⁹⁾	permissible load ³⁾ hammer drilled	permissible load ³⁾ rotary drilled	min. axial spacing single dowel	axial spacing within dowel group	min. axial spacing ²⁾ within dowel group	minimum edge spacing ⁷⁾
	[-]	h _{ef} [mm]	h _{min} [mm]	T _{inst} [Nm]	F _{perm} [kN]	F _{perm} [kN]	a _z [mm]	a [mm]	min a [mm]	a _r [mm]
Hollow brick HLZ										
M6 - M16	HLz 4	85	110	≤ 4	0.3	0.6	250	100	50	200 (50)
M6 - M16	HLz 6	85	110	≤ 4	0.4	0.8	250	100	50	200 (50)
M6 - M16	HLz 12	85	110	≤ 4	0.8	1.0	250	100	50	200 (50)
Porous sand-lime brick KSL										
M6 - M16	KSL 4	85	110	≤ 4	0.4	0.6 ¹⁰⁾	250	100	50	200 (50)
M6 - M16	KSL 6	85	110	≤ 4	0.6	0.8 ¹⁰⁾	250	100	50	200 (50)
M6 - M16	KSL 12	85	110	≤ 4	0.8	0.4 ¹⁰⁾	250	100	50	200 (50)
Hollow lightweight concrete brick Hbl										
M6 - M16	Hbl 2	85	110	≤ 4	0.3	0.5	250	200	200	200 (50)
M6 - M16	Hbl 4	85	110	≤ 4	0.6	0.8	250	200	200	200 (50)
Hollow concrete blocks Hbn										
M6 - M16	Hbn 4	85	110	≤ 4	0.6	0.8	250	200	200	200 (50)
Porous lightweight concrete TGL										
M8 - M10	-	85	175	≤ 4	1.3	1.3	200	150	100	200 (150)
M12 - M16	-	85	175	≤ 4	2.0	2.0	250	150	100	200 (150)

The entire Z-21.3-1824 approval notice is to be observed for the measurement.

- 1) Necessary safety factor is taken into consideration.
- 2) Minimum edge spacing for dowel pairs or groups of four and simultaneous reduction of the permissible load.
- 3) Valid for tensile loads, transverse loads and diagonal pull at any angle. See approval notice for bending moments and reduced axial spacing (dowel groups). The maximum load, which according to the approval may be applied to a block, is to be taken into account depending on the block size and load. In HLZ masonry that was built before 1977, an increase in load may be possible according to approval section 3.2.3.1.
- 4) Values apply to anchor rods FIS A M6 - M16 as well as internally threaded anchors FIS E M6 - M12. Plaster bridging (bridging non-structural layers) possible up to 20 mm max. - except for KSL. For anchor rods FIS A M6 and M8 as well as $h_{ef} = 50$ mm with anchor sleeve FIS H 12 x 50 K—without bridging non-structural layers. Other anchoring depths up to 200 mm and non-structural layer thicknesses up to 100 mm are possible, see approval.
- 5) gzp and A4. For FIS E, screw of strength class 5.8 or A4-70. FIS E only governed from M6 to M12 according to the approval.
- 6) The specified permissible loads are valid for anchorings in dry and damp masonry for temperatures up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval notice.
- 7) The value in parentheses applies to masonry with load or tilt indication. Does not apply for shear loads oriented toward the free edge.
- 8) 2 Nm, if not laid in a mortar bed (for non-adjacent anchoring plate on the anchoring base).
- 9) For $h_{ef} = 50$ mm, $h_{min} = 90$ mm; for $h_{ef} = 130$ mm, $h_{min} = 150$ mm and for $h_{ef} = 200$ mm, $h_{min} = 240$ mm.
- 10) KSL must have an external support strength of at least 30 mm (old blocks).

Continued on the next page

❶ Loads for FIS V and FIS V HIGH SPEED injection system with anchor rod FIS A⁵⁾ or FIS E internally threaded anchor ⁵⁾

Very high permissible loads^{1a)} of a single dowel in solid brick masonry

Type	Anchoring base strength class	effective anchoring depth ⁴⁾	minimum component thickness	installation torque ⁶⁾	permissible load ³⁾	min. axial spacing single dowel	Solid masonry		
							axial spacing within dowel group	min. axial spacing ²⁾ within dowel group	minimum edge spacing ⁷⁾
	[-]	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	F_{perm} [kN]	a_z [mm]	a [mm]	min a [mm]	a_r [mm]
Solid bricks Mz									
M6 - M8	Mz 12	75	110	≤ 4	1.0 (1.4) ⁹⁾	250	100	50	250 (60)
M10 - M 16	Mz 12	75	110	≤ 4	1.70	250	100	50	250 (60)
Solid sand-lime brick and stone blocks KS									
M6 - M8	KS 12	75	110	≤ 4	1.0 (1.4) ⁹⁾	250	100	50	250 (60)
M10 - M 16	KS 12	75	110	≤ 4	1.70	250	100	50	250 (60)

The entire Z-21.3-1824 approval notice is to be observed for the measurement.

- 1) Necessary safety factor is taken into consideration.
- 2) Minimum edge spacing for dowel pairs or groups of four and simultaneous reduction of the permissible load.
- 3) Valid for tensile loads, transverse loads and diagonal pull at any angle. See approval notice for bending moments and reduced axial spacing (dowel groups).
The maximum load, which according to the approval may be applied to a block, is to be taken into account depending on the block size and load.
- 4) Values apply to FIS A anchor rods. When using the FIS E internally threaded anchor (M6 to M12), the anchoring depth is 85 mm instead of 75 mm.
- 5) gzp and A4. For FIS E, screw of strength class 5.8 or A4-70. FIS E only governed from M6 to M12 according to the approval.
- 6) The specified permissible loads are valid for anchorings in dry and damp masonry for temperatures up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval notice.
- 7) The value in parentheses applies to masonry with load or tilt indication. Does not apply for shear loads oriented toward the free edge.
- 8) 2 Nm, if not laid in a mortar bed (for non-adjacent anchoring plate on the anchoring base).
- 9) The value in parentheses applies to masonry with load. When using the anchor sleeve FIS H...K, the load for M8 cannot be increased to 1.7 kN (does not apply to FIS H 12 x 50 K).

❶ Loads for FIS V and FIS V HIGH SPEED injection system with anchor rod FIS A⁵⁾ or FIS E internally threaded anchor ⁵⁾

Very high permissible loads^{1a)} of a single dowel in aerated concrete

Type	Anchoring base strength class	effective anchoring depth ⁴⁾	minimum component thickness	installation torque ⁶⁾	permissible load ³⁾	min. axial spacing single dowel	Solid masonry		
							axial spacing within dowel group	min. axial spacing ²⁾ within dowel group	minimum edge spacing ⁷⁾
	[-]	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	F_{perm} [kN]	a_z [mm]	a [mm]	min a [mm]	a_r [mm]
Aerated concrete blocks / aerated concrete blocks									
FIS A M8 - M12; FIS E M6; FIS E M8	P 2	75	110	≤ 5	0.9	250	200	50	200 (100)
	P 2	95 (85) ⁴⁾	110	≤ 5	1.3	250	250	50	200 (150)
	P 4	75	110	≤ 5	1.2	250	200	50	200 (100)
	P 4	95 (85) ⁴⁾	110	≤ 5	1.7	250	250	50	200 (150)
	P 6	75	110	≤ 5	1.6	250	200	50	200 (100)
	P 6	95 (85) ⁴⁾	110	≤ 5	2.1	250	250	50	200 (150)
reinforced and unreinforced wall slabs, reinforced roof and ceiling slabs (each pressure zone and in the tensile zone created by load tensions)									
FIS A M8 - M12; FIS E M6; FIS E M8	G 2.2 ⁹⁾	75	110	≤ 5	0.9	250	200	50	200 (100)
	G 2.2 ⁹⁾	95 (85) ⁴⁾	110	≤ 5	1.4	250	250	50	200 (150)
	G 3.3	75	110	≤ 5	1.2	250	200	50	200 (100)
	G 3.3	95 (85) ⁴⁾	110	≤ 5	1.6	250	250	50	200 (150)
	G 4.4	75	110	≤ 5	1.4	250	200	50	200 (100)
	G 4.4	95 (85) ⁴⁾	110	≤ 5	1.9	250	250	50	200 (150)

The entire Z-21.3-1824 approval notice is to be observed for the measurement.

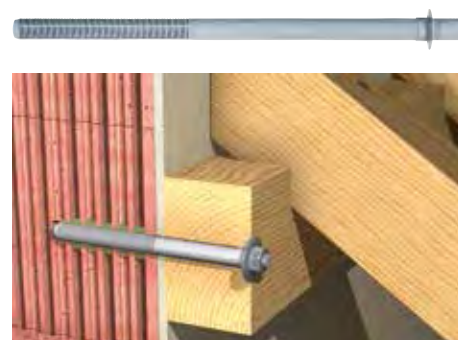
- 1) Necessary safety factor is taken into consideration.
- 2) Minimum edge spacing for dowel pairs or groups of four and simultaneous reduction of the permissible load. Does not apply to reinforced roof and ceiling slabs.
- 3) Valid for tensile loads, transverse loads and diagonal pull at any angle. See approval notice for bending moments and reduced axial spacing (dowel groups).
- 4) The values in parentheses apply to FIS E M6 - M8 internally threaded anchor.
- 5) gzp and A4. For FIS E, screw of strength class 5.8 or A4-70. Only FIS E M6 and FIS E M8 permissible.
- 6) The specified permissible loads are valid for anchorings in dry and damp masonry for temperatures up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval notice.
- 7) The value in parentheses applies to masonry with load or tilt indication. Does not apply for shear loads oriented toward the free edge.
- 8) 10 Nm, for FIS A M10 and FIS A M 12.
- 9) This quality is not governed in the approval for floor height, reinforced wall slabs.

Fischer injection push-through anchor sleeve FIS H K

Application: The FIS H K push-through anchor rods are used to fasten thick wooden beams in perforated masonry.

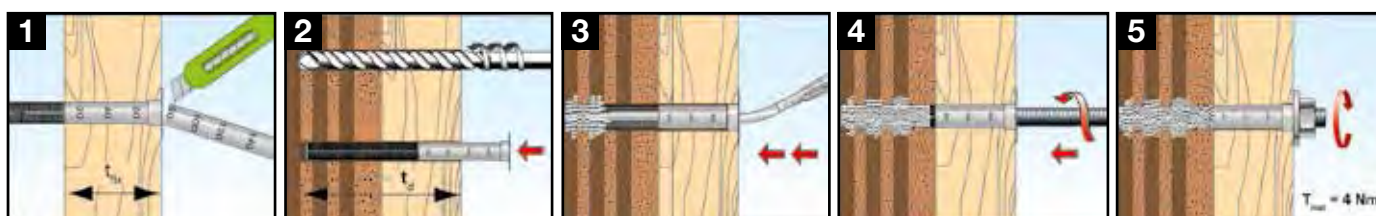
Properties: The FIS H K anchor sleeves prevent the mortar from moving into the chambers of the perforated masonry. Suitable for push-through installation. The anchor sleeves have a scale of 0-20 cm on the upper part and can simply be shortened to the respective thickness of the fixture as required.

Note: During assembly, the sieve sleeves is filled from the anchor base. The mixing tube is slowly pulled out of the anchor sleeve during dispensing.



DG 2173

Item no.	Type	for anchor rods	Hole Ø	Minimum anchoring depth	Clamping range, max.	Overall length	Price per 100 pieces	Pack- age con- tents
6268818130	FIS-18 x 130/200	M12	18 mm	130 mm	200 mm	330 mm	•	10
6268822130	FIS-22 x 130/200	M16	22 mm	130 mm	200 mm	330 mm	•	10



Fischer injection push-through anchor sleeve FIS H K Set

Complete with zinc-plated anchor rod.

Application: Approved in conjunction with Fischer FIS V injection mortar.

The FIS H K SET push-through anchor sleeves are used to fasten thick wooden beams in perforated brick.

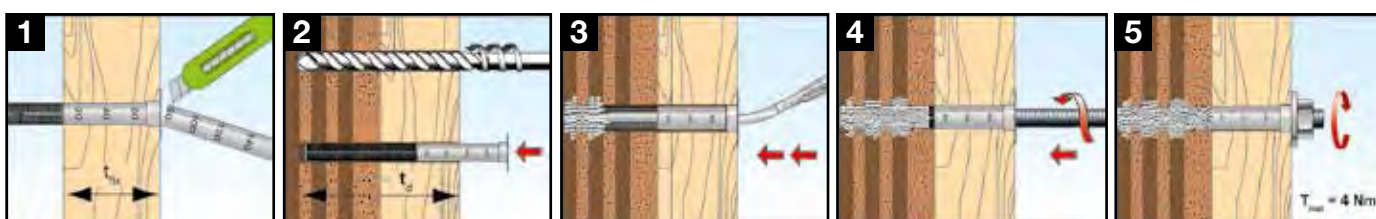
Properties: The FIS H K anchor sleeves prevent the mortar from moving into the chambers of the perforated masonry. Suitable for push-through installation. Delivered as a set with pre-installed threaded rods. The FIS H K anchor sleeves have a scale of 0-20 cm on the upper part and can simply be shortened to the respective thickness of the fixture as required.

Note: During assembly, the sieve sleeves is filled from the anchor base. The mixing tube is slowly pulled out of the anchor sleeve during dispensing.



DG 2173

galvanized								DG 2173	
Item no.	Type	with anchor rod	Hole Ø	Minimum anchoring depth	Clamp- ing range, max.	Overall length	Price per 100 pieces	Pack- age con- tents	
6268718130	FIS-18 x 130/200 M 12/200	M 12 x 200 mm	18 mm	130 mm	200 mm	330 mm	•	10	
6268722130	FIS-22 x 130/200 M 16/200	M 16 x 200 mm	22 mm	130 mm	200 mm	330 mm	•	10	



Fischer UMV composite anchor cartridges

Approved by the building authorities: General building supervision approval for dynamic use in cracked concrete M12 - M24 approval no. Z-21.3-1662 made of galvanically zinc-plated steel.

Application: In conjunction with the Fischer UMV multicone dynamic anchor rods, the Fischer UMV multicone composite anchor cartridges are used to fasten heavy objects under the conditions of dynamic stress in concrete. Main areas of application include industrial robots, overhead and column-mounted slewing cranes, elevators, facade substructures, transmitter masts and much more.

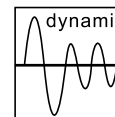
Properties: For dynamic stress. Tension-free anchorage with small axial and edge spacing. Styrene-free mortar based on vinyl ester resin. Temperature-sensitive setting times.

Installation instructions: Clean the boreholes thoroughly and insert the anchor rods with a rotating and hammering machine. Then drive in the installation sleeve for force transmission. Installation only permitted with torque wrench.

Advantages:

- for dynamic alternating loads
- crack resistance ensures very high safety
- anchoring low in expansion pressure permits small edge and axial spacing

Note: Fischer UMV multicone composite anchor cartridge is only approved in conjunction with Fischer UMV dynamic anchor rods. The anchor rods are not included in the price of the cartridges.



DG 2136

Item no.	Type	Thread	Drill Ø	Anchoring depth	Price per 100 pieces	Package contents
6202212100	UMV 100	M 12	15 mm	115 mm	•	10
6202216125	UMV 125	M 16	18 mm	140 mm	•	10
6202220170	UMV 170	M 20	25 mm	190 mm	•	10
6202224220	UMV 220	M 24	28 mm	245 mm	•	5

Temperature in the borehole	Wait time
> +20 °C	25 minutes
> +10 °C	30 minutes
> 0 °C	1 hour

The curing time is extended if there is moisture in the borehole.

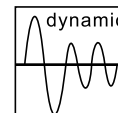


Fischer UMV multicone dynamic anchor rod

Application: The Upat UMV dynamic composite anchor rods are only approved for applications with dynamic alternating loads in cracked concrete, approval no. Z-21.3-1662, in conjunction with Upat UMV dynamic composite anchors. If cracks appear in the concrete, the cones spread out the mortar shell and compensate for the borehole expansion. Clamping bushings ensure even load distribution and make it possible to absorb dynamic alternating loads.

Installation instructions: Installation is only permitted with torque wrenches.

Note: Next, drive in the clamping bushings (come with every pack) for force transmission. All threaded rods have a hexagonal head as an insertion aid up to and including the size M 16. An adapter comes with every pack. The anchor rods M 20 and M 24 are cut off smoothly. The through hole in the component to be connected is mandatory.



galvanized

DG 2143

Item no.	Type	Thread	Overall length	Hole Ø x drill depth	Clamping range	Anchoring depth	Through hole in attached part	required cartridge	Price per 100 pieces	Pack-age contents
620431210	100 M 12/10	M 12	145 mm	15 x 115 mm	5 - 10 mm	100 mm	16 mm	100 M 12 P	•	10
620431215	100 M 12/15	M 12	150 mm	15 x 115 mm	8 - 15 mm	100 mm	16 mm	100 M 12 P	•	10
620431225	100 M 12/25	M 12	160 mm	15 x 115 mm	15 - 25 mm	100 mm	16 mm	100 M 12 P	•	10
620431250	100 M 12/50	M 12	185 mm	15 x 115 mm	25 - 50 mm	100 mm	16 mm	100 M 12 P	•	10
620431630	125 M 16/30	M 16	200 mm	18 x 140 mm	15 - 30 mm	125 mm	19 mm	125 M 16 P	•	10
620431660	125 M 16/60	M 16	230 mm	18 x 140 mm	30 - 50 mm	125 mm	19 mm	125 M 16 P	•	10
620432040	170 M 20/40	M 20	255 mm	25 x 190 mm	20 - 40 mm	170 mm	26 mm	170 M 20 P	•	10
620432450	220 M 24/50	M 24	325 mm	28 x 245 mm	25 - 60 mm	220 mm	29 mm	220 M 24 P	•	5

Fischer FIS EM epoxy resin mortar

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 30, approval no. ETA-10/0012 for galvanically zinc-plated steel and stainless steel A4. ETA-09/0089 and Building Standards Z-21.8-1874 for rebar connections with reinforcing steel 8-40 mm and Fischer FRA 12-20 rod anchor.

Application: The FIS EM Fischer epoxy resin mortar is used to fasten maximum loads in cracked concrete. Main application areas include heavy metal structures as well as later rebar connections.

Properties: The Fischer FIS EM epoxy resin mortar is can bear very high loads and is very fit for cracks, but also a relatively long setting time and is there for only recommended for installations where setting times are not relevant. It is suitable for a combination with various steel parts such as Fischer FIS A threaded rods, Fischer FIS E internally threaded anchors, customary threaded rods with factory test 3.1, Fischer FRA rod anchors, as well as reinforcing steel.

Permits anchorings as with rebar set in concrete.

The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function.

It is only necessary to screw on a new mixing tube after long interruptions. Every cartridge comes with 2 mixing tubes. No torque inspection is necessary for the FIS EM.

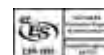
Advantages:

- very high loads in cracked concrete
- suitable for under water applications
- ideal for series installations due to prolonged processing and curing times
- suitable for diamond-drilled boreholes

Note: The boreholes are to be cleaned thoroughly according to the specifications of the approval.

If the FIS EM mortar is used for subsequent rebar connections, it should be noted that the company tasked with manufacturing the rebar connections must have a professional staff that is specially trained for this work. Certification courses are offered by Fischer.

For proper and compliant installation, cleaning tools, special application guns and mixing tubes are necessary.



DG 2131

Item no.	Contents	Scope of supply	Price per piece	Package contents
62883390	390 ml	2 Static mixer	•	1

Item accessories

Item no.	Description	Price
62884	FIS Mixer Red Static Mixer for Fischer injection mortar	•

Fischer FIS V 360 S injection mortar for rebar connection

Approved by the building authorities: Building Standards approval Z-21.8-1783 for subsequent rebar connection.

Application: Subsequent rebar connections of 8-28 mm fastening can be carried out with the Fischer FIS V injection mortar based on vinyl ester resin. The mortar bonds the entire surface of the rebar with the borehole wall and anchorings as with rebar set in concrete form. Please refer to the page for the Fischer FIS V 360 S injection system for further applications and technical information.

Note: In Germany, certification is required for compliant execution. Certification courses are offered by the Fischer Academy.

Installation: The aids required for installation can be found packaged in the FIS rebar case item no. 6203521 according to the requirements on the construction site.

Shuttle cartridges (side by side cartridges) Fischer FIS V 360 S: For these cartridges, the hardener is attached in a separate tube on the outside. A gun with 2 plungers item no. 6203531, 620356 or the pneumatic design item no. 6203522 is required for application.



DG 2134

Item no.	Cartridge contents	Price per piece	Package contents
6203526	560g = 360 cm ³	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes



Mixing tube for Fischer injection mortar

Application: The mixing tube serves as a nozzle for the injection mortar FIS V 360 S, FIS V 150 C and Fischer High Speed. The mixing tube must be replaced in the event of long interruptions.

DG 2172

Item no.	Type	Price per piece	Package contents
620371	for 360 cm ³	•	1



Fischer FIS rebar case

Application: Plastic carrying case with tools and equipment for the approved creation of additional reinforcement.

Scope of supply: 8 cleaning brushes, 5 extensions for cleaning brushes, each at 40 cm, 1 SDS holder for internal thread M 8, 8 injection aids, 1 cleaning hose, 2 cleaning nozzles each for drills 12-15, 16-19, 20-25 and 30-35 mm, 1 brush control template, 1 red marking tape, 2 fork wrench WAF 7, 1 installation log and 10 setting log.

DG 2172

Item no.	Price per case	Package contents
6203521	•	1



Fischer cleaning brushes with connection thread

Application: For mechanically cleaning the boreholes.

DG 2172

Item no.	Brush diameter	Thread Ø	Price per piece	Package contents
6204712	12 mm	M 8	•	1
6204714	14 mm	M 8	•	1
6204716	16 mm	M 8	•	1
6204718	18 mm	M 8	•	1
6204720	20 mm	M 8	•	1
6204725	25 mm	M 8	•	1
6204730	30 mm	M 8	•	1
6204735	35 mm	M 8	•	1



Fischer injection aids

Application: Plastic sleeve as an aid when filling the boreholes.

DG 2172

Diameter 9 mm			
Item no.	for borehole Ø	Price per 100 pieces	Package contents
6204812	12 mm	•	10
6204814	14 mm	•	10
6204816	16 mm	•	10
6204818	18 mm	•	10
6204820	20 mm	•	10
6204825	25 mm	•	10
6204830	30 mm	•	10
6204835	35 mm	•	10



Diameter 15 mm			
Item no.	for borehole Ø	Price per 100 pieces	Package contents
6204920	20 mm	•	10
6204925	25 mm	•	10
6204930	30 mm	•	10
6204935	35 mm	•	10

DG 2172

Fischer Thermax

Application: The Fischer Thermax dowels M8 - M10 are used to fasten light to medium-weight to heavy objects in insulated substrates made of concrete, aerated concrete, solid and perforated masonry or wood. Main application areas include lamps, mailboxes, alarm systems, downpipes, signs and much more.

Properties: Thermal separation minimizes heat loss. Self-cutting, glass-fiber-reinforced cone cuts through the plaster in the in the insulation. Adjustable from 0-20 mm. A variety of connection options with metric, sheet metal and chipboard screws. Can also be screwed directly into wood without a dowel.

Advantages:

- the plastic cone interrupts the thermal bridge and provides energetically optimized fastening
- no large-scale removal of insulation necessary



UX 10 Dowels for anchoring in common materials.

adjustable
0 - 20 mm

Working length
45 - 160 mm

Anti-cold cone



Stud screws can be screwed into dowel UX or directly into wood.

Different connection possibilities.



Note: The building thermography shows where heat loss is a threat. On windows, doors, joints and connection points. Anywhere where the thermal insulation is breached. The Fischer Thermax anchor quickly, easily and effectively prevents the thermal bridge.

DG 2091

Item no.	Type	Contents	Hole Ø	Working length	Conne- ction option chipboard or metric screws	Price per 100 pieces	Pack- age con- tents
62715860	Thermax 8/60 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	45 - 60 mm	3 - 4.5 / M 6	•	20
62715880	Thermax 8/80 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	10 - 80 mm	3 - 4.5 / M 6	•	20
627158100	Thermax 8/100 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	80 - 100 mm	3 - 4.5 M 6	•	20
627158120	Thermax 8/120 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	100 - 120 mm	3 - 4.5 / M 6	•	20
627158140	Thermax 8/140 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	120 - 140 mm	3 - 4.5 / M 6	•	20
627158160	Thermax 8/160 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	140 - 160 mm	3 - 4.5 / M 6	•	20
627158180	Thermax 8/180 M 6	20 x UX 10 / Thermax / SX 5 / cover caps	10 mm	160 - 180 mm	3 - 4.5 / M 6	•	20
6271510100	Thermax 10/100 M 6	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	80 - 100 mm	3 - 4.5 / M 6	•	20
6271510120	Thermax 10/120 M 6	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	100 - 120 mm	3 - 4.5 / M 6	•	20
6271510140	Thermax 10/140 M 6	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	120 - 140 mm	3 - 4.5 / M 6	•	20

Fill annular gap with Fischer DK sealant adhesive.

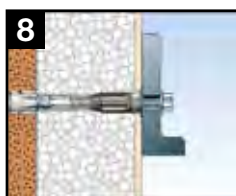
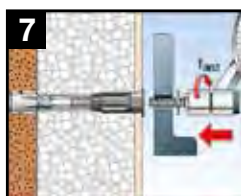
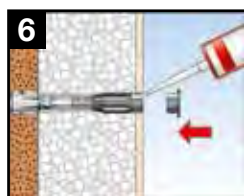
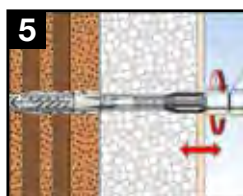
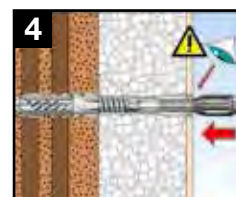
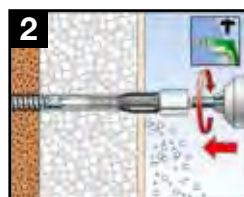
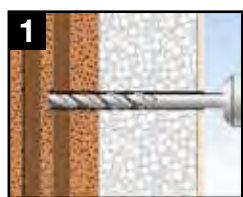
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Continuation of Fischer Thermax

DG 2091

Item no.	Type	Contents	Hole Ø	Working length	Conne- ction option chipboard or metric screws	Price per 100 pieces	Pack- age con- tents
6271510160	Thermax 10/160 M 6	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	140 - 160 mm	3 - 4.5 / M 6	•	20
6271510180	Thermax 10/180 M 6	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	160 - 180 mm	3 - 4.5 / M 6	•	20
6271610100	Thermax 10/100 M 8	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	80 - 100 mm	3 - 4.5 / M 8	•	20
6271610120	Thermax 10/120 M 8	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	100 - 120 mm	3 - 4.5 / M 8	•	20
6271610140	Thermax 10/140 M 8	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	120 - 140 mm	3 - 4.5 / M 8	•	20
6271610160	Thermax 10/160 M 8	20 x UX 12 / Thermax / SX 5 / cover caps	12 mm	140 - 160 mm	3 - 4.5 / M 8	•	20
6271710100	Thermax 10/ 100 M 10	20 x UX 12 / Thermax / cover caps	12 mm	80 - 100 mm	M 10	•	20
6271710120	Thermax 10/ 120 M 10	20 x UX 12 / Thermax / cover caps	12 mm	100 - 120 mm	M 10	•	20
6271710140	Thermax 10/ 140 M 10	20 x UX 12 / Thermax / cover caps	12 mm	120 - 140 mm	M 10	•	20
6271710160	Thermax 10/ 160 M 10	20 x UX 12 / Thermax / cover caps	12 mm	140 - 160 mm	M 10	•	20

Fill annular gap with Fischer DK sealant adhesive.



Fischer Thermax with approval

Approved by the building authorities: Building Standards approval Z-21.8-1837 in conjunction with Fischer FIS V, FIS VS and FIS VW mortar approved for insulation-bridging anchorings in masonry, solid and perforated bricks, lime sand, solid and perforated blocks as well as in aerated concrete and concrete.

Furthermore, the following approvals govern the seat of the threaded rods in the substrate:

ETA-02/0024 in conjunction with Fischer FIS V mortar for non-cracked concrete.

ETA-10/0012 in conjunction with Fischer FIS EM mortar for cracked concrete.

Z-21.3-1824 in conjunction with Fischer FIS V mortar for masonry, brick and aerated concrete.

For M12 and M16 anchor rods in galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer Thermax dowels M 12 - M 16 are used to fasten medium-weight to heavy objects in insulated substrates made of concrete, aerated concrete, solid and perforated masonry. Main application areas include spaced structures, marquees, awnings, carports, French balconies, window grates and much more.

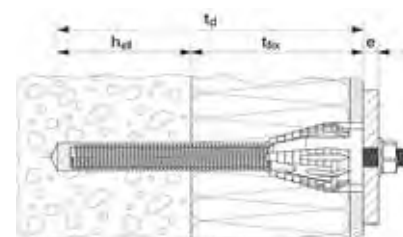
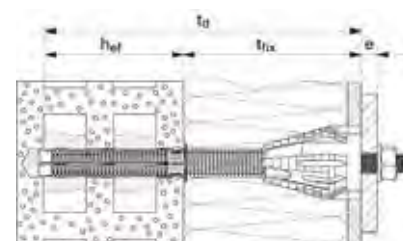
Properties: Thermal separation minimizes heat loss. Self-cutting, glass-fiber-reinforced cone cuts through the plaster in the in the insulation. Continuously adjustable, avoiding pressure points or damage to the WDVS. Large effective length range of 60-170 mm. Economical installation without special tools and without removing the insulation.

Installation instructions: For durable plaster (e.g. thick cement plaster) it is recommended to insert the enclosed shaping blade into one of the three depressions of the anti-cold cone for milling and to remove them again after use.

Advantages:

- the plastic cone interrupts the thermal bridge and provides energetically optimized fastening
- no large-scale removal of insulation necessary

Note: The building thermography shows where heat loss is a threat. On windows, doors, joints and connection points. Anywhere where the thermal insulation is breached. The Fischer Thermax anchor quickly, easily and effectively prevents the thermal bridge.



DG 2091

Item no.	Type	Contents	Price per piece	Package contents
626821212	Thermax 12/110 M12	5 pieces	•	20
626821612	Thermax 16/170 M12	5 pieces	•	20

Fill annular gap with Fischer DK sealant adhesive.

There is 1 screw insert and 1 extension tubes for the composite mortar in every package.

Minimum purchase quantity 20 piece.



Continued on the next page

Fischer FIS V 360 S injection mortar for Thermax

Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 6 to M 30, approval no. ETA-02/0024 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Building Standards Approval Z-21.3-1824 for solid and perforated masonry M 6 to M 16 and aerated concrete. M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4 as well as the approval ETA-10/0383 for many additional new types of stone.

Application: The Fischer FIS V injection mortar based on vinyl ester resin is used to fasten stand-off installation with thermal separation in thermal insulation systems (WDVS). Please refer to the page for the Fischer FIS V 360 S injection system for further applications and technical information .

Properties: The Fischer FIS V injection mortar is based on styrene-free vinyl ester resin. Free of expansion pressure, for small axial and edge spacing.

Installation: The boreholes are to be cleaned thoroughly with a blower and cleaning brush.

Shuttle cartridges (side by side cartridges) Fischer FIS V 360 S: For these cartridges, the hardener is attached in a separate tube on the outside. A gun with 2 plungers, item no. 6203531 or 620356 is required for application.

Note: This cartridge contains 2 separated chambers with mortar and hardener. A powerful customary silicone application gun, e.g. item no. 620355, suffices for dispensing.

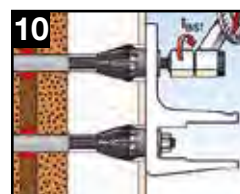
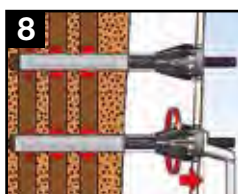
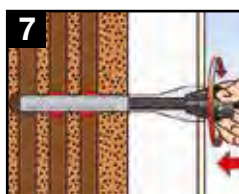
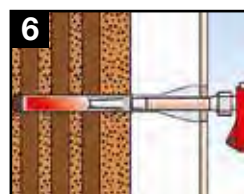
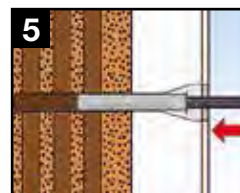
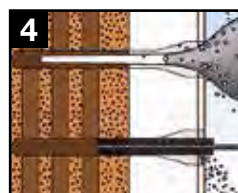
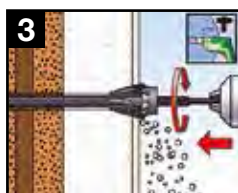
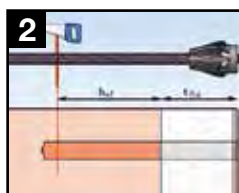
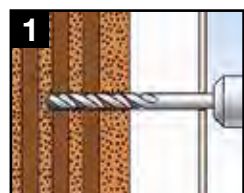


DG 2134

Item no.	Cartridge contents	Price per piece	Package contents
6203526	560g = 360 cm ³	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes



① Loads for Thermax 12 and 16

Stand-off installation system Thermax 12 and 16 with structural anchor rod made of galvanized steel with 1 mm displacement

The following load table applies to short-term loads (e.g. wind load). If the tightness of the annular gap between Thermax and plaster is ensured by the Fischer Multi adhesive and sealant KD, the Thermax variants with the substrate-side anchor rod made of galvanically zinc-plated steel may be used.

Very high permissible loads^{1) 6) 11)} of a Thermax within a group fastening²⁾ in masonry⁶⁾ with FIS V or FIS V HIGH SPEED and in concrete with FIS V, FIS V HIGH SPEED, FIS EM or FIS PM in conjunction with Powersleeve FIS PS.

Type	mini- mum effective anchoring depth	permissible tensile load	permissible trans- verse load at $t_{fix} =$ 62 mm	permissible trans- verse load at $t_{fix} =$ 100 mm	permissible trans- verse load at $t_{fix} =$ 120 mm	permissible trans- verse load at $t_{fix} =$ 140 mm	permissible trans- verse load at $t_{fix} =$ 160 mm	permissible trans- verse load at $t_{fix} =$ 180 mm	permissible trans- verse load at $t_{fix} =$ 200 mm	permissible trans- verse load at $t_{fix} =$ 250 mm	permissible trans- verse load at $t_{fix} =$ 300 mm	mini- mum com- ponent thick- ness	min. required axial spacing (dowel group)	min. required edge spacing
	h_{ef} ⁵⁾¹³⁾ [mm]	N_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	V_{perm} ³⁾⁴⁾ [kN]	h_{min} [mm]	a (s_{min}) [mm]	a_r (c_{min}) ⁸⁾ [mm]
Hollow brick \geq Hlz 12														
Thermax 12 ⁹⁾	130	1.00 ⁹⁾	0.83 ⁹⁾	0.49	0.31	0.21	0.16	0.11	0.08	-	-	175	50 ¹²⁾	50
Thermax 16 ⁹⁾	200	1.00 ⁹⁾	1.00 ⁹⁾	0.85 ⁹⁾	0.62 ⁹⁾	0.45	0.34	0.26	0.21	0.14	0.08	240	50 ¹²⁾	50
Porous sand-lime brick \geq KSL 12														
Thermax 12 ⁹⁾	130	1.40 ⁹⁾	0.83 ⁹⁾	0.49	0.31	0.21	0.16	0.11	0.08	-	-	175	50 ¹²⁾	50
Thermax 16 ⁹⁾	200	1.40 ⁹⁾	1.40 ⁹⁾	0.85 ⁹⁾	0.62	0.45	0.34	0.26	0.21	0.14	0.08	240	50 ¹²⁾	50
Hollow brick lightweight concrete \geq Hbl 2														
Thermax 12 ⁹⁾	130	0.50 ⁹⁾	0.50	0.49	0.31	0.21	0.16	0.11	0.08	-	-	175	200	50
Thermax 16 ⁹⁾	200	0.50 ⁹⁾	0.50	0.50	0.50	0.45	0.34	0.26	0.21	0.14	0.08	240	200	50
Hollow brick lightweight concrete \geq Hbl 4														
Thermax 12 ⁹⁾	130	0.80 ⁹⁾	0.80	0.49	0.31	0.21	0.16	0.11	0.08	-	-	175	200	50
Thermax 16 ⁹⁾	200	0.80 ⁹⁾	0.80	0.80	0.62	0.45	0.34	0.26	0.21	0.14	0.08	240	200	50
Solid brick \geq Mz 12														
Thermax 12 ¹³⁾	95	1.70 ⁹⁾	0.83	0.49	0.31	0.21	0.16	0.11	0.08	-	-	175	50 ¹²⁾	60
Thermax 16 ¹³⁾	125	1.70 ⁹⁾	1.51 ⁹⁾	0.85	0.62	0.45	0.34	0.26	0.21	0.14	0.08	175	50 ¹²⁾	60
Solid sand-lime brick and stone blocks \geq KS 12														
Thermax 12 ¹³⁾	95	1.70 ⁹⁾	0.83	0.49	0.31	0.21	0.16	0.11	0.08	-	-	175	50 ¹²⁾	60
Thermax 16 ¹³⁾	125	1.70 ⁹⁾	1.51 ⁹⁾	0.85	0.62	0.45	0.34	0.26	0.21	0.14	0.08	175	50 ¹²⁾	60
Non-cracked concrete with FIS V or FIS V High Speed and cracked concrete with FIS EM or FIS PM in conjunction with Powersleeve, concrete strength each \geq C20/25 (~B25)														
Thermax 12 ¹³⁾	70 (72) ¹⁰⁾	3.40 ⁷⁾	0.88	0.49	0.31	0.21	0.16	0.11	0.08	-	-	100 (104) ¹⁰⁾	55	55
Thermax 16 ¹³⁾	80 (96) ¹⁰⁾	3.40 ⁷⁾	1.51	0.85	0.62	0.45	0.34	0.26	0.21	0.14	0.08	116 (136) ¹⁰⁾	60	60

The entire Z-21.8-1837 approval notice, as well as Z-21.3-1824, ETA-02/0024, ETA-10/0012 or ETA-12/0160 are to be observed for the measurement.

Maximum installation torque $T_{inst,max} = 20$ Nm - fastening screw M12

1) Required safety factors are taken into consideration.

2) Arrangement of at least two anchoring points in the transverse load direction and frame effect with bend-proof frame. See approval for individual fasteners.

3) For combinations of tensile and transverse loads, see the approval notice. In masonry, the maximum permissible load per brick according to approval Z-21.3-1824, annex 9, table 9 cannot be exceeded.

4) Values apply if drilling is done in perforated masonry (Hlz, KSL, Hbl) using a rotary drill (without impact). KSL must have an external support strength of at least 30 mm (old bricks). Hammer drilling in solid bricks and concrete. When using the FIS PM in conjunction with Powersleeve, diamond drilling in concrete is also possible.

5) The standard Thermax 12 can span non-structural thicknesses up to 110 mm max. in hollow brick, perforated sand-lime bricks and hollow blocks made of lightweight concrete, and the Thermax 16 to 170 mm. When using other anchor sleeves and potentially also longer anchor rods, as well as when reducing the anchoring depth, greater working lengths are possible with Thermax 12 up to 200 mm and with Thermax 16 to 300 mm - see approval.

6) The specified permissible loads are valid for anchorings in a dry and damp anchoring base for temperatures up to +50 °C (or in the short-term to +80 °C) in the area of the mortaring and for borehole cleaning according to the approval notice. The load values apply to a substrate-side anchor rod made of galvanized steel of strength 8.8 for other strengths or stainless steel, see approval.

7) Complies with the permissible tensile load of the Thermax cone.

8) Only applies to masonry with load or tilt indication. Does not apply for shear loads oriented toward the free edge.

9) Required axial spacing in the dowel group (4 dowels max.) must be increased according to approval Z-21.3-1824 (FIS V) to up to 100 mm.

10) Values in the parentheses apply to FIS PM.

11) It is permissible to interpolate intermediate values of transverse loads independent of t_{fix} linear unless specified otherwise in the approval.

12) Only applies to pure tensile load. For tensile loads or the interaction of tensile and transverse loads, see approval FIS V masonry Z-21.3-1824.

13) The standard Thermax 12 can span non-structural thicknesses up to 165 mm max. in solid bricks and solid sand-lime bricks, and the Thermax 16 up to 295 mm.

The standard Thermax 12 can span non-structural thicknesses up to 170 mm max. in concrete, and the Thermax 16 up to 290 mm. When using longer anchor sleeves and in solid masonry with reduced anchoring depth compared to the table value, greater working lengths are possible with Thermax 12 up to 200 mm and with Thermax 16 up to 300 mm see approval.

① Loads for Thermax 12 and 16

Stand-off installation system Thermax 12 and 16 with structural anchor rod made of stainless steel A4 with 3 mm displacement

The following load table applies to short-term loads (e.g. wind load). Measures for sealing, see approval, section 3.2.4

Very high permissible loads^{1) 11)} of a Thermax within a group fastening²⁾ in masonry³⁾ with FIS V or FIS V HIGH SPEED

and in concrete with FIS V, FIS V HIGH SPEED, FIS EM or FIS PM in conjunction with Powersleeve FIS PS.

Type	mini- mum effective anchoring depth	permissible tensile load	permissible trans- verse load at $t_{fix} =$ 62 mm	permissible trans- verse load at $t_{fix} =$ 100 mm	permissible trans- verse load at $t_{fix} =$ 120 mm	permissible trans- verse load at $t_{fix} =$ 140 mm	permissible trans- verse load at $t_{fix} =$ 160 mm	permissible trans- verse load at $t_{fix} =$ 180 mm	permissible trans- verse load at $t_{fix} =$ 200 mm	permissible trans- verse load at $t_{fix} =$ 250 mm	permissible trans- verse load at $t_{fix} =$ 300 mm	mini- mum com- ponent thick- ness	min. required axial spacing (dowel group)	min. required edge spacing
	h_{ef} 5)13) [mm]	N_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	V_{perm} 3)4) [kN]	h_{min} [mm]	$a (s_{min})$ [mm]	$a_e (c_{min})$ 8) [mm]
Hollow brick \geq Hlz 12														
Thermax 12 ⁹⁾	130	1.00 ⁹⁾	0.83 ⁹⁾	0.54	0.45	0.39	0.35	0.30	0.23	-	-	175	50 ¹²⁾	50
Thermax 16 ⁹⁾	200	1.00 ⁹⁾	1.00 ⁹⁾	0.98 ⁹⁾	0.83 ⁹⁾	0.71 ⁹⁾	0.63 ⁹⁾	0.56	0.51	0.42	0.23	240	50 ¹²⁾	50
Porous sand-lime brick \geq KSL 12														
Thermax 12 ⁹⁾	130	1.40 ⁹⁾	0.83 ⁹⁾	0.54	0.45	0.39	0.35	0.30	0.23	-	-	175	50 ¹²⁾	50
Thermax 16 ⁹⁾	200	1.40 ⁹⁾	1.40 ⁹⁾	0.98 ⁹⁾	0.83 ⁹⁾	0.71	0.63	0.56	0.51	0.42	0.23	240	50 ¹²⁾	50
Hollow brick lightweight concrete \geq Hbl 2														
Thermax 12 ⁹⁾	130	0.50 ⁹⁾	0.50	0.50	0.45	0.39	0.35	0.30	0.23	-	-	175	200	50
Thermax 16 ⁹⁾	200	0.50 ⁹⁾	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.42	0.23	240	200	50
Hollow brick lightweight concrete \geq Hbl 4														
Thermax 12 ⁹⁾	130	0.80 ⁹⁾	0.80	0.54	0.45	0.39	0.35	0.30	0.23	-	-	175	200	50
Thermax 16 ⁹⁾	200	0.80 ⁹⁾	0.80	0.80	0.80	0.71	0.63	0.56	0.51	0.42	0.23	240	200	50
Solid brick \geq Mz 12														
Thermax 12 ¹³⁾	95	1.70 ⁹⁾	0.83	0.54	0.45	0.39	0.35	0.30	0.23	-	-	175	50 ¹²⁾	60
Thermax 16 ¹³⁾	125	1.70 ⁹⁾	1.51 ⁹⁾	0.98 ⁹⁾	0.83	0.71	0.63	0.56	0.51	0.42	0.23	175	50 ¹²⁾	60
Solid sand-lime brick and stone blocks \geq KS 12														
Thermax 12 ¹³⁾	95	1.70 ⁹⁾	0.83	0.54	0.45	0.39	0.35	0.30	0.23	-	-	175	50 ¹²⁾	60
Thermax 16 ¹³⁾	125	1.70 ⁹⁾	1.51 ⁹⁾	0.98 ⁹⁾	0.83	0.71	0.63	0.56	0.51	0.42	0.23	175	50 ¹²⁾	60
Non-cracked concrete with FIS V or FIS V High Speed and cracked concrete with FIS EM or FIS PM in conjunction with Powersleeve, concrete strength each \geq C20/25 (-B25)														
Thermax 12 ¹³⁾	70 (72) ¹⁰⁾	3.40 ⁷⁾	0.88	0.56	0.48	0.41	0.36	0.30	0.23	-	-	100 (104) ¹⁰⁾	55	55
Thermax 16 ¹³⁾	80 (96) ¹⁰⁾	3.40 ⁷⁾	1.51	0.98	0.83	0.71	0.63	0.56	0.51	0.42	0.23	116 (136) ¹⁰⁾	60	60

The entire Z-21.8-1837 approval notice, as well as Z-21.3-1824, ETA-02/0024, ETA-10/0012 or ETA-12/0160 are to be observed for the measurement.

Maximum installation torque $T_{inst,max} = 20$ Nm - fastening screw M12

1) Required safety factors are taken into consideration.

2) Arrangement of at least two anchoring points in the transverse load direction and frame effect with bend-proof frame. See approval for individual fasteners.

3) For combinations of tensile and transverse loads, see the approval notice. In masonry, the maximum permissible load per brick according to approval Z-21.3-1824, annex 9, table 9 cannot be exceeded.

4) Values apply if drilling is done in perforated masonry (Hlz, KSL, Hbl) using a rotary drill (without impact). KSL must have an external support strength of at least 30 mm (old bricks). Hammer drilling in solid bricks and concrete. When using the FIS PM in conjunction with Powersleeve, diamond drilling in concrete is also possible.

5) The standard Thermax 12 can span non-structural thicknesses up to 110 mm max. in hollow brick, perforated sand-lime bricks and hollow blocks made of lightweight concrete, and the Thermax 16 to 170 mm. When using other anchor sleeves and potentially also longer anchor rods, as well as when reducing the anchoring depth, greater working lengths are possible with Thermax 12 up to 200 mm and with Thermax 16 to 300 mm - see approval.

6) The specified permissible loads are valid for anchorings in a dry and damp anchoring base for temperatures up to +50 °C (or in the short-term to +80 °C) in the area of the mortaring and for borehole cleaning according to the approval notice. The load values apply to a substrate-side anchor rod made of galvanized steel of strength 8.8 for other strengths or stainless steel, see approval.

7) Complies with the permissible tensile load of the Thermax cone.

8) Only applies to masonry with load or tilt indication. Does not apply for shear loads oriented toward the free edge.

9) Required axial spacing in the dowel group (4 dowels max.) must be increased according to approval Z-21.3-1824 (FIS V) to up to 100 mm.

10) Values in the parentheses apply to FIS PM.

11) It is permissible to interpolate intermediate values of transverse loads independent of t_{fix} linear unless specified otherwise in the approval.

12) Only applies to pure transverse load. For tensile loads or the interaction of tensile and transverse loads, see approval FIS V masonry Z-21.3-1824.

13) The standard Thermax 12 can span non-structural thicknesses up to 165 mm max. in solid bricks and solid sand-lime bricks, and the Thermax 16 up to 295 mm. The standard Thermax 12 can span non-structural thicknesses up to 170 mm max. in concrete, and the Thermax 16 up to 290 mm. When using longer anchor sleeves and in solid masonry with reduced anchoring depth compared to the table value, greater working lengths are possible with Thermax 12 up to 200 mm and with Thermax 16 up to 300 mm see approval.

Fischer sealant adhesive KD for Thermax dowels

Type: The Fischer KD sealant adhesive is used to seal the annular gap of Thermax anchor rods M 12 / M 16.

Properties: On an MS polymer basis. Silicone and solvent-free. Aging, weather, and UV-resistant.



Item no.	Color	Contents	Price per piece	Package contents
62743	white	260 ml	•	1

Fischer cleaning brushes

Application: For cleaning boreholes when installing with composite mortar and composite anchors.

DG 2172



Item no.	Type	for hole Ø	Overall length	Price per piece	Package contents
6264110	BS 10	10 mm	150 mm	•	1
6264112	BS 12	12 mm	150 mm	•	1
6264114	BS 14	14 mm	250 mm	•	1
626411618	BS 16/18	16 + 18 mm	250 mm	•	1
6264125	BS 25	25 mm	300 mm	•	1
6264128	BS 28	28 mm	300 mm	•	1
6264135	BS 35	30 mm	300 mm	•	1

Fischer blower

Application: For cleaning boreholes when installing with composite anchors and composite mortar.

DG 2172



Item no.	Price per piece	Package contents
62034	•	1

Mixing tube for Fischer injection mortar

Application: The mixing tube serves as a nozzle for the injection mortar FIS V 360 S, FIS V 150 C and Fischer High Speed. The mixing tube must be replaced in the event of long interruptions.

DG 2172



Item no.	Type	Price per piece	Package contents
620371	for 360 cm ³	•	1

FIS Mixer Red Static Mixer for Fischer injection mortar

Application: The mixing tube is used as a nozzle for the injection mortar High Bond FHB, Superbond FSB, Powerbond F and FIS EM. The mixing tube must be replaced in the event of long work interruptions.

DG 2172



Item no.	Price per piece	Package contents
62884	•	1

Fischer extension tube

Application: For applying the injection mortar cartridges to hard-to-reach areas.



Item no.	Length	Pipe diameter	Price per piece	Package contents
620404	100 cm	9 mm	•	1

DG 2172



Fischer sieve sleeve

Type: For longer anchoring depths, additional metal sieve sleeves are offered in uncut lengths.



DG 2174

Item no.	Type	Hole Ø x sleeve length	for fasteners Ø	Price per 100 pieces	Package contents
620367	SH 12/1000 M	12/1,000	6 - 8 mm	•	10
620363	SH 16/1000 M	16/1,000	8 - 10 mm	•	10
620402	SH 22/1000 M	22/1,000	12 - 16 mm	•	6

Fischer anchor sleeve (sieve sleeve) FIS H K

Approved by the building authorities: Approved in conjunction with Fischer FIS V injection mortar and Fischer FIS A anchor rods for use in perforated brick. The galvanized FIS H L cut by the meter is not included in the approval.

Application: The Fischer FIS H anchor sleeves are used when injecting Fischer injection mortar into perforated brick.

Properties: The FIS H anchor sleeves prevent the mortar from moving into the chambers of the perforated masonry. Centering blades (only for the FIS H K plastic design) on the inside of the sleeve permit the use of different anchor rod diameters and center them in the sleeve. The metal FIS H L cut by the meter can be individually customized if need be.

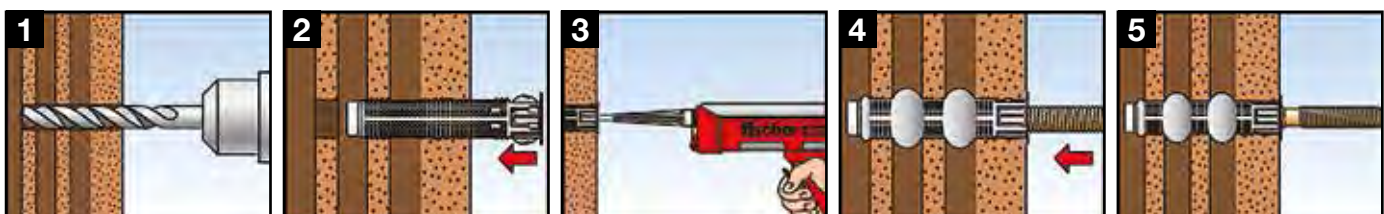
Installation instructions: The sieve sleeve is filled from the anchor base. The mixing tube is slowly pulled out of the anchor sleeve during dispensing. Please refer to the information below for the filling quantity.

Note: Fischer FIS H K sieve sleeves are only approved in conjunction with Fischer injection mortar.



DG 2173

Plastic		Type	Hole Ø	Borehole depth	for FIS anchor rods	Filling quantity (scale on cartridge)	Price per 100 pieces	Package contents
626851250		FIS-H 12 x 50 K	12 mm	60 mm	M 6 - M 8	5	•	50
626851285		FIS-H 12 x 85 K	12 mm	95 mm	M 6 - M 8	10	•	50
626851685		FIS-H 16 x 85 K	16 mm	95 mm	M 8 - M 10	12	•	50
6268516130		FIS-H 16 x 130 K	16 mm	140 mm	M 8 - M 10	15	•	20
626852085		FIS-H 20 x 85 K	20 mm	95 mm	M 12 - M 16	15	•	20
6268520130		FIS-H 20 x 130 K	20 mm	140 mm	M 12 - M 16	25	•	20
6268520200		FIS-H 20 x 200 K	20 mm	210 mm	M 12 - M 16	40	•	20



Fischer metal internally threaded sleeve



Application: Approved in conjunction with Fischer FIS V injection mortar for connections in non-cracked concrete, masonry and perforated brick (with sieve sleeves) M 6 - M 12 and aerated concrete M 6 - M 8.

Properties: In conjunction with Fischer FIS V injection mortar, the Fischer FIS E internally threaded anchors are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures.



galvanized							2161
Item no.	Type	Thread	Anchoring depth	Screw-in depth min./max.	Suitable for	Price per 100 pieces	Package contents
62047648	E11 x 85 M 6 mm	M 6	85 mm	8 - 60 mm	FIS-H 16 x 85 K / FIS-H 20 x 85 K	•	10
62047880	E11 x 85 M 8 mm	M 8	85 mm	8 - 60 mm	FIS-H 16 x 85 K / FIS-H 20 x 85 K	•	10
620471080	E15 x 85 M 10 mm	M 10	85 mm	10 - 60 mm	FIS-H 20 x 85 K	•	10
620471280	E15 x 85 M 12 mm	M 12	85 mm	10 - 60 mm	FIS-H 20 x 85 K	•	10

Fischer insertion tool RA-SDS

Application: The setting tool is used for the simple installation of anchor rods FIS A, RG M, FHB AS and AL.



DG 2172

Item no.	Price per piece	Package contents
620294	•	1

Fischer FIS V 360 S injection mortar for aerated concrete

Approved by the building authorities: Building Standards approval Z-21.3-1824 for aerated concrete M 8 to M 12. Galvanically zinc-plated anchor rods and stainless steel A4.

Application: The Fischer FIS V injection mortar based on vinyl ester resin is used to fasten medium-weight to heavy objects in aerated concrete blocks and bricks as well as in reinforced roof and ceiling slabs made of aerated concrete. The undercut bore-hole ensures maximum load-bearing capacity thanks to a form fit. The undercut in the material is created by swiveling the PBB tapered drill in one work step. The centering sleeve fixes the fastening element in the borehole and also permits overhead installation as a result. Please refer to the page for the Fischer FIS V 360 S injection system for further applications and technical information .

Advantages:

- fastening without expansion pressure permits short distances
- maximum load-bearing capacity due to form fit in undercut aerated concrete
- also approved with customary threaded rods inspected according to 3.1

Note: The Fischer injection system is only permitted in conjunction with FIS-A anchor rods or anchor rods with factory test 3.1. The anchor rods and sieve sleeves are not included in the price of the Fischer injection system.

Installation: The boreholes are to be cleaned thoroughly with a blower and cleaning brush.

Shuttle cartridges (side by side cartridges) Fischer FIS V 360 S: For these cartridges, the hardener is attached in a separate tube on the outside. A gun with 2 plungers, item no. 6203531 or 620356 is required for application.



DG 2134

Item no.	Cartridge contents	Price per piece	Package contents
6203526	560g = 360 cm ³	•	1

Waiting time until the load is applied (the temperature in the anchoring depth may not fall below +5 °C during curing).

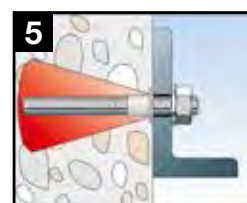
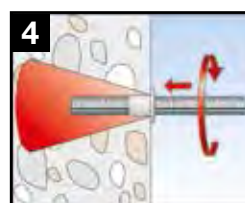
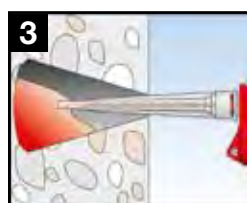
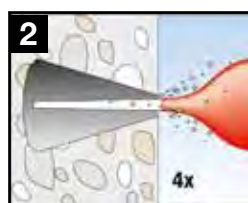
Temperature in the anchoring base	Curing times (reference values)
> +5 °C	90 minutes
> +20 °C	45 minutes
> +30 °C	30 minutes
> +40 °C	25 minutes

Fischer tapered drill bit PBB



DG 2172

Item no.	for anchor rods	Price per piece	Package contents
62741	M 8 - M 10	•	1



Fischer PBZ centering sleeve

Type: The centering sleeve fixes the threaded rod in place and permits overhead installations.



DG 2172

Item no.	for anchor rods	Price per 100 pieces	Package contents
62742	M 8 - M 10	•	10



Centering device

Application: The centering device keeps the anchor rods in position until the mortar cures. Recommended for overhead installations from the size M 16 onward.

DG 2172

Item no.	for anchor rods	Price per 100 pieces	Package contents
62677	M 8 - M 10	•	10



Fischer application gun FIS DMS / FIS AM

Application: For dispensing Fischer mortar injection cartridges FIS V 360 and FIS HB 345.



DG 2172

Item no.	Type	Price per piece	Package contents
6203531	FIS DMS (pro)	•	1
620356	FIS AM (standard)	•	1

Fischer battery-powered application gun FIS DC 4000 S

Application: For applying from mortar cartridges up to 360 ml.

Properties: Battery driven, automatic return, release of tension after every interruption in work, no dripping, charger with integrated filling display, charging time of 60 minutes. Battery charge is enough for 15 360 ml cartridges.

Scope of supply: FIS DC 4000 S battery-powered application gun with charger and battery pack in a plastic carrying case.



DG 2172

Item no.	Type	Price per piece	Package contents
628601	in a case with 2 battery packs and a charger	•	1

Fischer DC battery pack



DG 2172

Item no.	Type	Price per piece	Package contents
628603	DC	•	1

Fischer pneumatic application gun

Application: For dispensing mortar cartridges up to 360 ml / 950 ml (recommended working pressure of 6 bar).

fischer
innovative solutions



DG 2172

Item no.	Type	Price per piece	Package contents
6203522	FIS AP for 360 ml cartridges	•	1

Fischer fill & fix injection dowel

Application: The Fischer fill & fix injection fixing is used to fasten light objects in concrete and masonry. In particular for problematic building materials such as masonry with porous microstructures or with low compressive strength. The injection compound is sprayed directly into the borehole and cures quickly. Screws can be directly screwed into the cured mortar.

Properties: On a polyurethane basis. The compound foams slightly during curing. A maximum hold in cavities is ensured by this increase in volume.

fill & fix can also be used as a repair paste for wooden building materials or torn-out boreholes. The quantity of mortar is enough for approx. 4 boreholes 10x50 mm.

Scope of supply: 1 cartridge with dispensing stopper (can be used without gun), 2 static mixer, 4 anchor sleeves and 2 extensions.

Advantages:

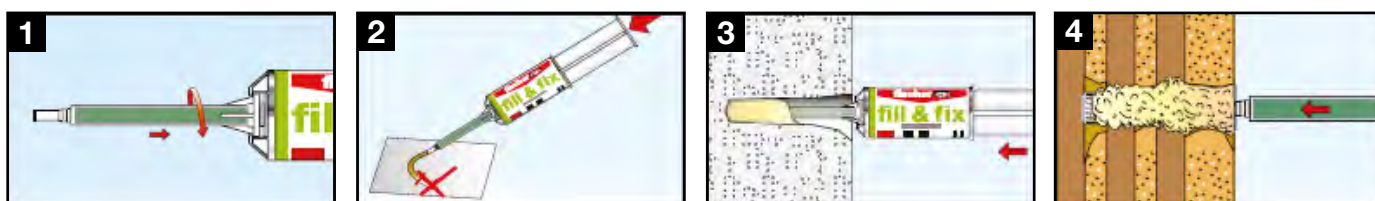
- suitable for all materials
- increase in volume during curing ensures maximum hold in cavities
- also as repair paste for all wooden materials

fischer
innovative solutions



DG 2131

Item no.	Contents	Price per piece	Package contents
6270525	25 ml	•	1



MKT composite anchor cartridge V-P



Approved by the building authorities: European Technical Approval, Option 8, non-cracked concrete M 8 to M 24, approval no. ETA-05/0231 for galvanically zinc-plated steel, hot-dip galvanized, stainless steel A4 and HCR 1.4529.

Application: In conjunction with MKT V-A composite anchor rods, the MKT V-P composite anchor cartridges are used to fasten heavy objects in concrete. Main areas of application include heavy metal structures, facade substructures, noise barriers, guardrails and much more.

Properties: The MKT V-P composite anchor cartridges are 2-component synthetic resin mortars based on vinyl ester resin that cure quickly after mixing. The curing time is temperature-sensitive. Tension-free anchorage with small axial and edge spacing. Can also be used in wet, boreholes that are not filled with water.

Installation instructions: Clean the boreholes thoroughly and insert the anchor rods with a rotating and hammering machine. Installation only permitted with torque wrench.

Advantages:

- fastening without expansion pressure permits small axial and edge spacing
- mortar extensively bonds the threaded rods and seals the borehole against weather effects

Note: MKT V-P composite anchor cartridges are only approved in conjunction with MKT V-A composite anchor rods. The anchor rods are not included in the price of the cartridges.



DG 2137

Item no.	Type	Thread	Drill Ø	Anchoring depth	Price per 100 pieces	Package contents
620528	VP 8	M 8	10 mm	80 mm	•	10
6205210	VP 10	M 10	12 mm	90 mm	•	10
6205212	VP 12	M 12	14 mm	110 mm	•	10
6205216	VP 16	M 16	18 mm	125 mm	•	10
6205220	VP 20	M 20	25 mm	170 mm	•	10

Temperature in the borehole	Curing times for dry concrete	Curing times for damp concrete
-5 °C	300 minutes	600 minutes
0 °C	300 minutes	600 minutes
+5 °C	60 minutes	120 minutes
+10 °C	60 minutes	120 minutes
+20 °C	20 minutes	40 minutes
+30 °C	10 minutes	20 minutes
+35 °C	10 minutes	20 minutes

MKT composite anchor rod V-A



Approved by the building authorities: European Technical Approval, Option 8, non-cracked concrete M 8 to M 24, approval no. ETA-05/0231 for galvanically zinc-plated steel, hot-dip galvanized, stainless steel A4 and HCR 1.4529.

Application: For fastening heavy objects in concrete in conjunction with MKT V-P composite anchor cartridges.

Properties: The MKT V-P composite anchor cartridges are 2-component synthetic resin mortars based on vinyl ester resin that cure quickly after mixing. The curing time is temperature-sensitive. Tension-free anchorage with small axial and edge spacing. Can also be used in wet, boreholes that are not filled with water.

Installation instructions: Clean the boreholes thoroughly and insert the anchor rods with a rotating and hammering machine. Installation only permitted with torque wrench.

Advantages:

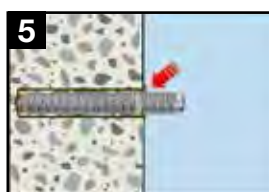
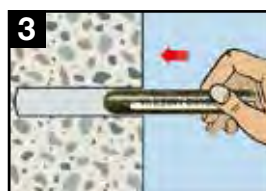
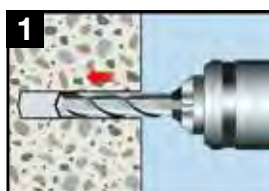
- fastening without expansion pressure permits small axial and edge spacing
- mortar extensively bonds the threaded rods and seals the borehole against weather effects

Note: MKT V-A composite anchor rods are only approved in conjunction with MKT V-P composite anchor cartridges. The cartridges are not included in the price of the anchor rods. A setting tool comes with every pack.



DG 2148

galvanized							
Item no.	Type	Thread	Overall length	Clamping range	Minimum anchoring depth	Price per 100 pieces	Package contents
620538110	VA 8-20/110	M 8	110 mm	20 mm	80 mm	•	10
6205310130	VA 10-30/130	M 10	130 mm	30 mm	90 mm	•	10
6205310165	VA 10-65/165	M 10	165 mm	65 mm	90 mm	•	10
6205312160	VA 12-35/160	M 12	160 mm	35 mm	110 mm	•	10
6205312210	VA 12-85/210	M 12	210 mm	85 mm	110 mm	•	10
6205312220	VA 12-95/220	M 12	220 mm	95 mm	110 mm	•	10
6205312250	VA 12-125/250	M 12	250 mm	125 mm	110 mm	•	10
6205312300	VA 12-175/300	M 12	300 mm	175 mm	110 mm	•	10
6205316165	V-A16-20/165	M 16	165 mm	20 mm	125 mm	•	10
6205316190	VA 16-45/190	M 16	190 mm	45 mm	125 mm	•	10
6205316250	VA 16-105/250	M 16	250 mm	105 mm	125 mm	•	10
6205316300	VA 16-155/300	M 16	300 mm	155 mm	125 mm	•	10
6205320220	VA 20-20/220	M 20	220 mm	20 mm	170 mm	•	10
6205320260	VA 20-60/260	M 20	260 mm	60 mm	170 mm	•	10
6205320300	VA 20-100/300	M 20	300 mm	100 mm	170 mm	•	10



Continuation of MKT composite anchor rod V-A



Stainless steel A4

DG 2157

Item no.	Type	Thread	Overall length	Clamping range	Minimum anchoring depth	Price per 100 pieces	Package contents
620548110	V-A 8-20/140 A4	M 8	110 mm	20 mm	80 mm	•	10
6205410130	V-A 10-30/130 A4	M 10	130 mm	30 mm	90 mm	•	10
6205412160	V-A 12-35/160 A4	M 12	160 mm	35 mm	110 mm	•	10
6205412220	V-A 12-95/220 A4	M 12	220 mm	95 mm	110 mm	•	10
6205412300	V-A 12-175/300 A4	M 12	300 mm	175 mm	110 mm	•	10
6205416165	V-A 16-20/165 A4	M 16	165 mm	20 mm	125 mm	•	10
6205416190	V-A 16-45/190 A4	M 16	190 mm	45 mm	125 mm	•	10
6205416250	V-A 16-105/250 A4	M 16	250 mm	105 mm	125 mm	•	10
6205416300	V-A 16-155/300 A4	M 16	300 mm	155 mm	125 mm	•	10
6205420260	V-A 20-60/260 A4	M 20	260 mm	60 mm	170 mm	•	10

Temperature(°C) in the borehole	Curing time for dry concrete	Curing time for damp concrete
-5 °C	5 hours	10 hours
0 °C	5 hours	10 hours
+5 °C	1 hour	2 hours
+10 °C	1 hour	2 hours
+20 °C	20 minutes	40 minutes
+30 °C	10 minutes	20 minutes
+35 °C	10 minutes	20 minutes

Cartridge temperature during processing at least +5 °C

① Loads for MKT V composite anchor galv. zinc-plated / stainless steel A4

Permissible loads ¹⁾ of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C20/25 (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	mini- mum component thickness	max. installation torque	per- missible tensile load	per- missible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2)}$ [kN]	$V_{perm}^{2)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
V-A M8	gzp (5.8) A4	80	110	10	7.9	5.1 6.0	120	65 75	240	40	40
V-A M10	gzp (5.8) A4	90	120	20	11.9	8.0 9.2	90	90 110	180	45	45
V-A M12	gzp (5.8) A4	110	140	40	15.9	12.0 13.3	110	125 145	220	55	55
V-A M16	gzp (5.8) A4	125	160	80	19.8	22.3 25.2	125	230 265	250	65	65
V-A M20	gzp (5.8) A4	170	220	120	29.8	34.9 39.4	170	290 335	340	85	85

The entire ETA - 05/0231 approval notice is to be observed for the measurement.

1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.

2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).) The specified loads are valid for anchorings in dry and damp concrete for temperatures in the anchoring base up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval.

MKT VMZ injection mortar for cracked concrete

Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 24, approval no. ETA-04/0092 for galvanically zinc-plated steel, hot-dip galvanized, stainless steel A4 and HCR 1.4529.

Application: In conjunction with the VMZ-A anchor rods, the MKT VMZ injection mortar is used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, noise barriers, bridge railings according to GEL 14, baluster attachment according to GEL 33 and much more.

Properties: The MKT injection system VMZ comprises an anchor rod with tapered expansion elements and a 2-component injection mortar. This combination brings together the advantages of composite dowels and expansion dowels in an approved fastening system for cracked and non-cracked concrete and ensures small axial and edge spacing. Push-through installation is possible starting from M 10. Undiminished load carrying capacity in wet and, from M 12 onward, in water filled boreholes.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and brush. Installation only permitted with torque wrench. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Advantages:

- low concrete component thicknesses
- high load-carrying capacity in cracked concrete

Note: The MKT injection mortar is only approved in conjunction with VMZ-A anchor rods. The anchor rods are not included in the price of the injection mortar. Every cartridge comes with one mixing tube.

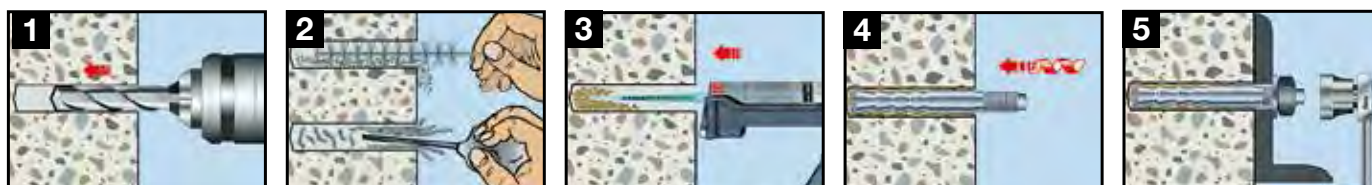
For proper and compliant installation, cleaning tools, special application guns and mixing tubes are necessary.



DG 2136

Item no.	Type	Contents	Price per piece	Package contents
62670345	VMZ 345	345 ml	•	1

Every cartridge comes with a mixing tube.



MKT VMZ injection system anchor rod



Approved by the building authorities: European Technical Approval, Option 1, cracked concrete M 8 - M 24, approval no. ETA-04/0092 for galvanically zinc-plated steel, hot-dip galvanized, stainless steel A4 and HCR 1.4529.

Application: In conjunction with the MKT VMZ injection mortar, the MKT VMZ-A anchor rods are used to fasten heavy objects in cracked concrete. Main areas of application include metal structures, facade substructures, noise barriers, bridge railings according to GEL 14, baluster attachment according to GEL 33 and much more.

Properties: The MKT injection system VMZ comprises an anchor rod with tapered expansion elements and a 2-component injection mortar. This combination brings together the advantages of composite dowels and expansion dowels in an approved fastening system for cracked and non-cracked concrete and ensures small axial and edge spacing. Push-through installation is possible starting from M 10. Undiminished load carrying capacity in wet and, from M 12 onward, in water filled boreholes.

Installation instructions: The boreholes are to be cleaned thoroughly. Installation only permitted with torque wrench.

Advantages:

- low concrete component thicknesses
- high load-carrying capacity in cracked concrete

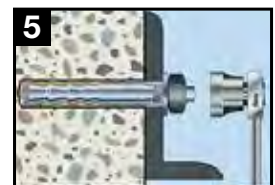
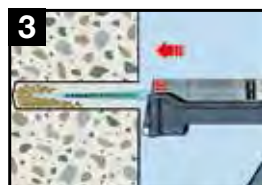
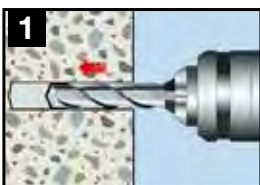
Note: The MKT VMZ-A anchor rods are only approved in conjunction with MKT VMZ injection mortar. The injection mortars are not included in the price of the anchor rods.



DG 2147

galvanized

Item no.	Type	Thread Ø	max. clamping range	Hole Ø	Borehole depth	Price per 100 pieces	Package contents
62671815	VMZ-A 50 M 8-15/80	M 8	15 mm	10 mm	55 mm	•	10
62671845	VMZ-A 50 M 8-45/110	M 8	45 mm	10 mm	55 mm	•	10
626711010	VMZ-A 60 M 10-10/85	M 10	10 mm	12 mm	65 mm	•	10
626711020	VMZ-A 60 M 10-20/95	M 10	20 mm	12 mm	65 mm	•	10
626711210	VMZ-A 80 M 12-10/110	M 12	10 mm	14 mm	85 mm	•	10
626711225	VMZ-A 80 M 12-25/125	M 12	25 mm	14 mm	85 mm	•	10
626711250	VMZ-A 80 M 12-50/150	M 12	50 mm	14 mm	85 mm	•	10
6267112100	VMZ-A 80 M 12-100/200	M 12	100 mm	14 mm	85 mm	•	10
6267112251	VMZ-A 100 M 12-25/145	M 12	25 mm	14 mm	105 mm	•	10
6267112601	VMZ-A 100 M 12-60/180	M 12	60 mm	14 mm	105 mm	•	10
62671121001	VMZ-A 100 M 12-100/220	M 12	100 mm	14 mm	105 mm	•	10
626711630160	VMZ-A 105 M 16-30/160	M 16	30 mm	18 mm	113 mm	•	10
626711630	VMZ-A 125 M 16-30/180	M 16	30 mm	18 mm	133 mm	•	10
626711660	VMZ-A 125 M 16-60/210	M 16	60 mm	18 mm	133 mm	•	10
6267116100	VMZ-A 125 M 16-100/250	M 16	100 mm	18 mm	133 mm	•	10
626712050	VMZ-A 170 M 20-50/255	M 20	50 mm	24 mm	180 mm	•	5
6267120100	VMZ-A 170 M 20-100/305	M 20	100 mm	24 mm	180 mm	•	5
626712450	VMZ-A 200 M 24-50/290	M 24	50 mm	26 mm	215 mm	•	5
6267124100	VMZ-A 200 M 24-100/340	M 24	100 mm	26 mm	215 mm	•	5



Continuation of MKT VMZ injection system anchor rod

Stainless steel A4

DG 2157

Item no.	Type	Thread Ø	max. clamping range	Hole Ø	Borehole depth	Price per 100 pieces	Package contents
62672815	VMZ-A 50 M 8-15/80	M 8	15 mm	10 mm	55 mm	•	10
62672845	VMZ-A 50 M 8-45/110	M 8	45 mm	10 mm	55 mm	•	10
626721010	VMZ-A 60 M 10-10/85	M 10	10 mm	12 mm	65 mm	•	10
626721020	VMZ-A 60 M 10-20/95	M 10	20 mm	12 mm	65 mm	•	10
626721020110	VMZ-A 75 M 10-20/110	M 10	20 mm	12 mm	80 mm	•	10
626721040	VMZ-A 75 M 10-40/130	M 10	40 mm	12 mm	80 mm	•	10
626721225115	VMZ-A 70 M 12-25/115	M 12	25 mm	14 mm	75 mm	•	10
626721210	VMZ-A 80 M 12-10/110	M 12	10 mm	14 mm	85 mm	•	10
626721225	VMZ-A 80 M 12-25/125	M 12	25 mm	14 mm	85 mm	•	10
626721250	VMZ-A 80 M 12-50/150	M 12	50 mm	14 mm	85 mm	•	10
6267212100	VMZ-A 80 M 12-100/200	M 12	100 mm	14 mm	85 mm	•	10
6267212251	VMZ-A 100 M 12-25/145	M 12	25 mm	14 mm	105 mm	•	10
6267212601	VMZ-A 100 M 12-60/180	M 12	60 mm	14 mm	105 mm	•	10
62672121001	VMZ-A 100 M 12-100/220	M 12	100 mm	14 mm	105 mm	•	10
626721630145	VMZ-A 90 M 16-30/145	M 16	30 mm	18 mm	98 mm	•	10
626721630160	VMZ-A 105 M 16-30/160	M 12	30 mm	18 mm	113 mm	•	10
626721630	VMZ-A 125 M 16-30/180	M 16	30 mm	18 mm	133 mm	•	10
626721660	VMZ-A 125 M 16-60/210	M 16	60 mm	18 mm	133 mm	•	10
6267216100	VMZ-A 125 M 16-100/250	M 16	100 mm	18 mm	133 mm	•	10
626722050	VMZ-A 170 M 20-50/255	M 20	50 mm	24 mm	180 mm	•	5
6267220100	VMZ-A 170 M 20-100/305	M 20	100 mm	24 mm	180 mm	•	5
626722450	VMZ-A 200 M 24-50/290	M 24	50 mm	26 mm	215 mm	•	5
6267224100	VMZ-A 200 M 24-100/340	M 24	100 mm	26 mm	215 mm	•	5

Temperature (°C) in the borehole	Processing time	Curing time for dry concrete	Curing time for damp concrete
-5 °C	1.30 hours	6 hours	12 hours
-4 °C to -1 °C	45 minutes	6 hours	12 hours
0 °C to +4 °C	20 minutes	3 hours	6 hours
+5 °C to +9 °C	12 minutes	2 hours	4 hours
+10 °C to +19 °C	6 minutes	1.20 hours	2.40 hours
+20 °C to +29 °C	4 minutes	45 minutes	1.30 hours
+30 °C to +34 °C	2 minutes	25 minutes	50 minutes
+35 °C to +39 °C	1.4 minutes	20 minutes	40 minutes
+40 °C	1.4 minutes	15 minutes	30 minutes

Cartridge temperature during processing at least +5 °C

Continued on the next page

① Loads for MKT VMZ injection system galv. zinc-plated / stainless steel A4

Permissible loads ¹⁾ of a single dowel in cracked normal concrete (concrete tension zone) of strength C20/25 ³⁾ (~B25)										minimum spacing while the load is simultaneously reduced	
Type	Material	effective anchoring depth	mini-mum component thick-ness	max. installation torque	per-missible tensile load	per-missible transverse load	necessary edge spacing (at an edge) for max. load		necessary axial spacing for max. load	min. axial spacing	min. edge spacing
		h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	$N_{perm}^{2) 4)}$ [kN]	$V_{perm}^{2) 4)}$ [kN]	Tensile load c [mm]	Transverse load c [mm]	s_{cr} [mm]	s_{min} [mm]	c_{min} [mm]
VMZ-A 50 M8	gzp A4	50	80	10	6.1	8.0 8.6	75	195 210	150	40	40
VMZ-A 60 M10	gzp A4	60	100	15	8.0	12.0 13.1	90	260 285	180	40	40
VMZ-A 75 M10	A4	75	110	15	11.1	13.1	112.5	265	225	40	40
VMZ-A 70 M12	A4	70	110	25	10.0	19.4	105	405	210	55	55
VMZ-A 80 M12	gzp A4	80	110	25	12.3	19.4	120	400	240	40	50
VMZ-A 100 M12	gzp A4	100	130	30	17.1	19.4	150	350	300	50	50
VMZ-A 90 M16	A4	90	130	50	14.6	29.3	135	550	270	50	50
VMZ-A 105 M16	gzp A4	105	150	50	18.4	36.0	157.5	630	315	50	50
VMZ-A 125 M16	gzp A4	125	170	50	24.0	36.0	187.5	575	375	60	60
VMZ-A 170 M20	gzp A4	170	230	80	38.0	76.0 74.9	255	1050 1030	510	80	80
VMZ-A 200 M24	gzp A4	200	270	120	48.5	97.0 89.1	300	1220 1110	600	80	80

The entire ETA - 04/0092 approval notice is to be observed for the measurement.

- 1) The partial safety factors of the resistors governed in the approval as well as a partial safety factor of the effect $\gamma_F = 1.4$ are taken into consideration.
- 2) A detailed dowel measurement, e.g. with the MKT dimensioning software, is required for combinations of tensile and transverse loads or for transverse loads with a lever arm (bending) as well as for reduced edge and axial spacing (dowel groups).
- 3) At higher concrete strengths up to C50/60, permissible loads up to 55% higher are possible. See approval. The concrete is assumed to be normally reinforced.
- 4) The specified loads are valid for anchorings in dry and damp concrete for temperatures in the anchoring base up to +50 °C (or in the short-term to +80 °C) and borehole cleaning according to the approval.

MKT Express injection mortar VMU 345

For the cold months. 50% more rapid curing.



Approved by the building authorities: European Technical Approval, Option 7, non-cracked concrete M 8 to M 30, approval no. ETA-05/0253 for galvanically zinc-plated steel, stainless steel A4 and HCR 1.4529. Building Standards approval Z-21.3-1803 for solid and perforated masonry M 8 to M 12 (with internally threaded anchor rods also in M 6 + M 8).

Application: The MKT VMU Express injection mortar based on vinyl ester resin is used to fasten medium-weight to heavy objects in masonry, solid and perforated brick, lime sand, solid and perforated masonry as well as in non-cracked concrete. Main areas of application include heavy metal structures of all kinds, facade sub-structures, machinery, devices and much more. The two resin and hardener components are first mixed when they leave the cartridge. In this way, the remaining content of the cartridge continues to function. It is only necessary to screw on a new mixing tube after long interruptions.

Properties: Very rapid curing and load-bearing capacity. Ideal for the colder months. Free of expansion pressure, for small axial and edge spacing.

Installation instructions: The boreholes are to be cleaned thoroughly with a blower and cleaning brush.

Advantages:

- 50% faster curing and load-bearing capacity
- hardly any limitations at cold temperatures
- also approved for the use of customary threaded rods according to DIN 975 with factory test 3.1

Note: Cartridges that were briefly stored below 0 °C can be brought back to a minimum temperature of +5 °C by means of suitable measures without a loss of function. For temperatures greater than +5 °C it is absolutely necessary to note the significantly reduced processing times. Every cartridge comes with one mixing tube. The MKT VMU express injection mortar is only permitted in conjunction with VMU and V-A anchor rods, threaded rods with factory test 3.1 and when used in perforated masonry with VMU-SH sieve sleeves. Offset VMU-AH anchor rods are only approved for use in VMU-SH sieve sleeves in perforated masonry. The anchor rods and sieve sleeves are not included in the price of the mortar cartridges.

For proper and compliant installation, cleaning tools, special application guns, mixing tubes and, depending on the substrate, sieve sleeves are necessary.



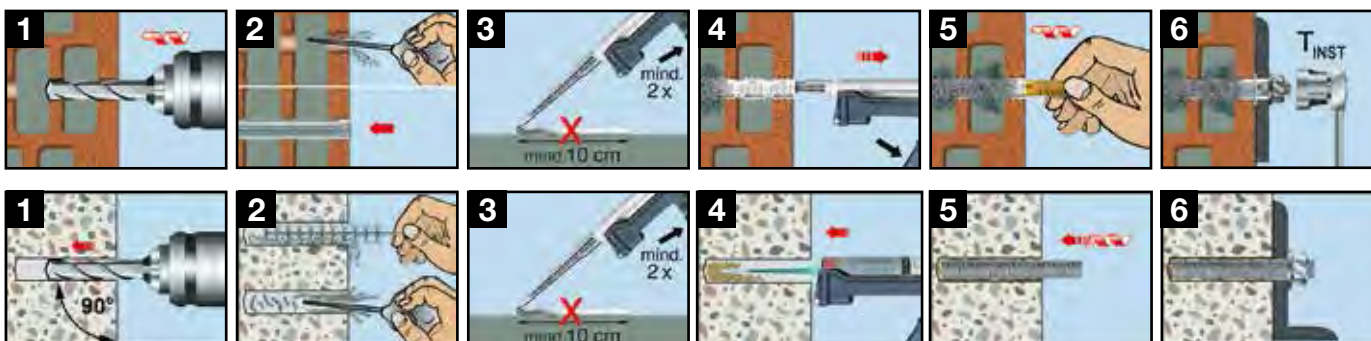
DG 2136

Item no.	Type	Contents	Price per piece	Package contents
62886345	VMU Express	345 ml	•	1

Borehole filling quantity per cartridge 345 ml in solid brick without sieve sleeve				
	M 8	M 10	M 12	M 16
approx. boreholes	58	41	28	17

Boreholes filling quantity per cartridge 345 ml in perforated brick with sieve sleeve			
	M 8	M 10	M 12
approx. boreholes	20	14	14

Temperature in the borehole	Processing time	Curing times in dry/wet concrete
-15 °C	150 minutes	24 hours / 48 hours
-10 °C	120 minutes	10 hours / 20 hours
-5 °C	40 minutes	4 hours / 8 hours
0 °C	20 minutes	2 hours / 4 hours
+5 °C	10 minutes	60 minutes / 120 minutes
+10 °C	6 minutes	40 minutes / 80 minutes
+20 °C	3 minutes	20 minutes / 40 minutes
+30 °C	1 minutes	10 minutes / 20 minutes



Insertion tools for anchor rod to composite anchor

Type: For smoothly cut off anchor rods without insertion aid, e.g. special lengths.



DG 2172

Item no.	for anchor rods	Price per piece	Package contents
620298	M 8	•	1
6202910	M 10	•	1
6202912	M 12	•	1
6202914	M 14	•	1
6202916	M 16	•	1
6202920	M 20	•	1
6202924	M 24	•	1
6202930	M 30	•	1



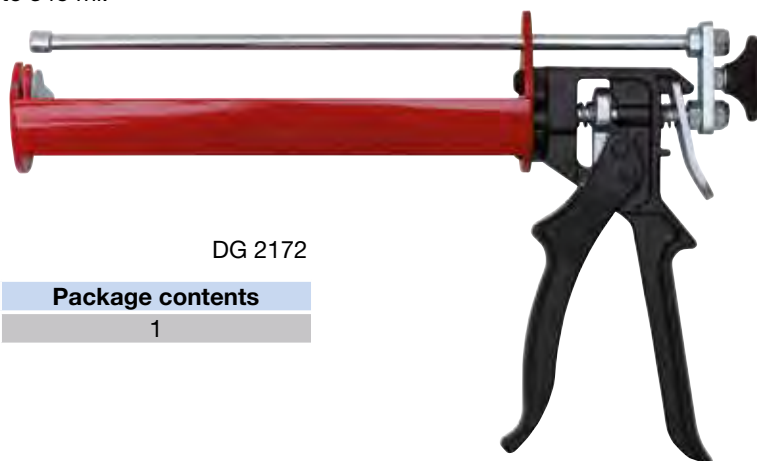
MKT application gun

Application: For applying injection mortar cartridges up to 345 ml.



DG 2172

Item no.	Price per piece	Package contents
620354	•	1



MKT application gun VMP 300

Application: For dispensing from sealant and adhesive cartridges up to 310 ml. as well as for coaxial injection mortar cartridges up to 300 ml.

Properties: Very powerful metal design with open half-shell.



DG 2172

Item no.	Price per piece	Package contents
620355	•	1



Toge asphalt fastener - injection mortar ATA 2004C

Application: The Toge ATA 2004C injection mortar is used for anchoring in asphalt. Main application areas are traffic guidance systems, restraint systems, impact protection systems, speed bumps, sidewalk covers, barriers, shelving systems, post securing and much more.

Properties: Anchoring without expansion pressure in non-pressure-resistant material. Fastening on the surface with TSM-A internally threaded sleeves protect vehicle tires when driving over guards.

Installation instructions: Clean boreholes thoroughly.

Advantage:

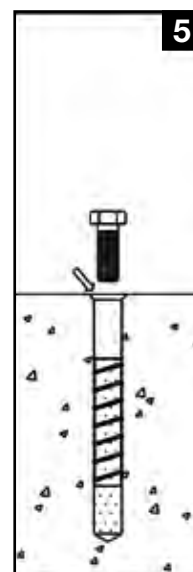
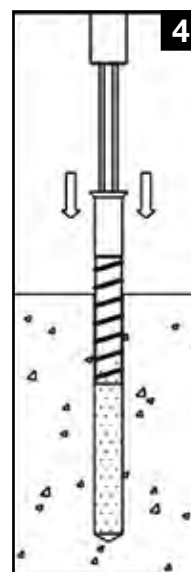
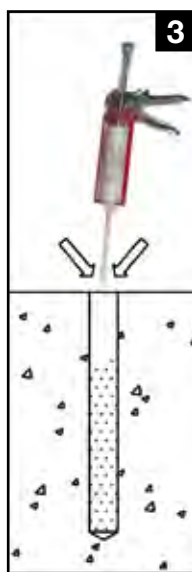
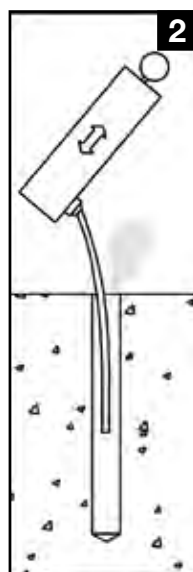
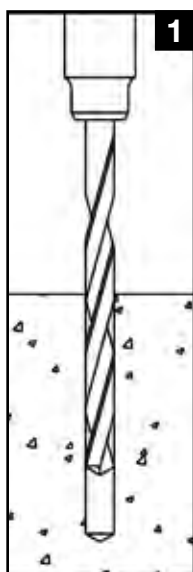
- tested system for fastening fixtures in non-pressure-resistant, soft materials

Note: Every cartridge comes with one mixing tube. The internally threaded sleeves are not included in the price of the injection mortar.



DG 2130

Item no.	Contents	Price per piece	Package contents
62850385	385 ml	•	1



Mixing tube for ATA 2004C composite mortar

Application: The mixing tube serves as a nozzle for the injection mortar. The mixing tube must be replaced in the event of long work interruptions.



DG 2170

Item no.	Price per piece	Package contents
628511	•	1

Internally threaded sleeves TSM-A galvanized

Application: The internally threaded sleeves TSM-A are used for fastening fixtures in asphalt in conjunction with the Toge ATA 2004 C injection mortar. In favor of easy removability, these internally threaded sleeves can also be inserted into the asphalt without injection mortar for temporary attachments.

However, approx. 1/3 load reduction must be taken into account.

Properties: Thanks to flush installation, these internally threaded sleeves are outstandingly suited for fastening fixtures to traffic routes because the anchor can be driven over without harming vehicle tires.

Advantage:

- anchoring without expansion and installation on the surface possible

Note: Galvanically zinc-plated sleeves are sufficient for interior applications or for temporary exterior attachments. The internally threaded sleeves coated with TOGE-KORR for permanent attachments in the open. The injection mortar is not included in the price of the internally threaded sleeves.



DG 2160

Item no.	Type	Hole Ø	Borehole depth	Internal thread	Screw-in depth	Strokes from the press	Price per 100 pieces	Package contents
6285216100	TSM-A 16x100	16 mm	105 - 110 mm	M 10	10 / 25 mm	1	•	50
6285222100	TSM-A 22x100	22 mm	105 - 110 mm	M 16	16 / 30 mm	1 - 2	•	50
6285222155	TSM-A 22x155	22 mm	155 - 160 mm	M 16	16 / 30 mm	2 - 3	•	40

An anchor rod with M 24 x 220 external thread can also be delivered at short notice upon request.

Reducer for TSM-A internally threaded sleeves

Application: For reducing the thread sizes of the TSM-A internally threaded sleeves.

DG 2170

Item no.	reduced from	Price per piece	Package contents
628514	M 16 - M 10	•	25
628515	M 16 - M 12	•	1



Insertion tool for TSM-A internally threaded sleeves

Application: For driving TSM-A internally threaded sleeves for Toge asphalt fastener.

DG 2170

Item no.	Price per piece	Package contents
628513	•	1



Application gun for ATA 2004 C composite mortar

Application: For applying TOGE injection mortar asphalt fastener.



Item no.	Price per piece	Package contents
628512	•	1

Fischer long-shaft dowel SXR-T with countersunk head screw



Approved by the building authorities: European Technical Approval, approval no. ETA-07/0121 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners. For galvanically zinc-plated steel and stainless steel A4. Building Standards Approval Z-21.2-1862 for facade fasteners with stainless steel screws and, in special cases (see approval section 1.2), with galvanized screws.

Application: The Fischer SXR long shaft dowels are used to fasten light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties: Material nylon, halogen-free. Very low anchoring depth. Integrated knock-in lock prevents premature expanding. Complete with pre-installed countersunk screws. Screw drive: TX30 for SXR-T 8 and TX40 for SXR-T 10.

Advantages:

- cost and time savings thanks to uniquely low anchoring depth
- pre-installed screws save a work step
- variable use thanks to additional redundant approval

Note: Dowels are only permitted in conjunction with the included Fischer safety screws.

For anchoring in aerated concrete with PP2, PB 2 and P3.3 quality, the holes cannot be drilled, but must be struck with aerated concrete plungers.

Higher-strength aerated concrete blocks must be drilled using a rotary drill.



galvanized

DG 2084

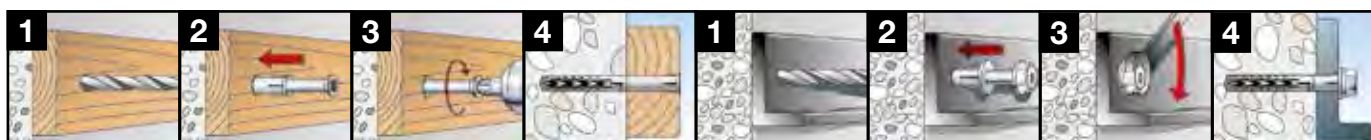
Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
62750860	SXR 8 x 60 T	8 x 60 mm	10 mm	50 mm	•	50
62750880	SXR 8 x 80 T	8 x 80 mm	30 mm	50 mm	•	50
627508100	SXR 8 x 100 T	8 x 100 mm	50 mm	50 mm	•	50
627508120	SXR 8 x 120 T	8 x 120 mm	70 mm	50 mm	•	50
627501080	SXR 10 x 80 T	10 x 80 mm	30 mm	50 mm	•	50
6275010100	SXR 10 x 100 T	10 x 100 mm	50 mm	50 mm	•	50
6275010120	SXR 10 x 120 T	10 x 120 mm	70 mm	50 mm	•	50
6275010140	SXR 10 x 140 T	10 x 140 mm	90 mm	50 mm	•	50
6275010160	SXR 10 x 160 T	10 x 160 mm	110 mm	50 mm	•	50
6275010180	SXR 10 x 180 T	10 x 180 mm	130 mm	50 mm	•	50
6275010200	SXR 10 x 200 T	10 x 200 mm	150 mm	50 mm	•	50
6275010230	SXR 10 x 230 T	10 x 230 mm	180 mm	50 mm	•	50
6275010260	SXR 10 x 260 T	10 x 260 mm	210 mm	50 mm	•	50



Stainless steel A4

DG 2084

Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627511080	SXR 10 x 80 T A4	10 x 80 mm	30 mm	50 mm	•	50
6275110100	SXR 10 x 100 T A4	10 x 100 mm	50 mm	50 mm	•	50
6275110120	SXR 10 x 120 T A4	10 x 120 mm	70 mm	50 mm	•	50
6275110140	SXR 10 x 140 T A4	10 x 140 mm	90 mm	50 mm	•	50
6275110160	SXR 10 x 160 T A4	10 x 160 mm	110 mm	50 mm	•	50
6275110180	SXR 10 x 180 T A4	10 x 180 mm	130 mm	50 mm	•	50
6275110200	SXR 10 x 200 T A4	10 x 200 mm	150 mm	50 mm	•	50
6275110230	SXR 10 x 230 T A4	10 x 230 mm	180 mm	50 mm	•	50
6275110260	SXR 10 x 260 T A4	10 x 260 mm	210 mm	50 mm	•	50



Fischer long-shaft dowel SXR 10-FUS with hexagonal bolt



Approved by the building authorities: European Technical Approval, approval no. ETA-07/0121 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners for galvanically zinc-plated steel and stainless steel A4. Building Standards Approval Z-21.2-1862 for facade fasteners with stainless steel screws and, in special cases (see approval section 1.2), with galvanized screws.

Application: The Fischer SXR long shaft dowels are used to fasten light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties: Material nylon, halogen-free. Very low anchoring depth. Integrated knock-in lock prevents premature expanding. Complete with pre-installed hexagonal bolts and pressed-on washer. Screw drive: WAF 13.

Advantages:

- cost and time savings thanks to uniquely low anchoring depth
- save a work step thanks to pre-installed screws
- variable use thanks to additional redundant approval

Note: Dowels are only permitted in conjunction with the included Fischer safety screws.

For anchoring in aerated concrete with PP2, PB 2 and P3.3 quality, the holes cannot be drilled, but must be struck with aerated concrete plungers.

Higher-strength aerated concrete blocks must be drilled using a rotary drill.



galvanized

DG 2084

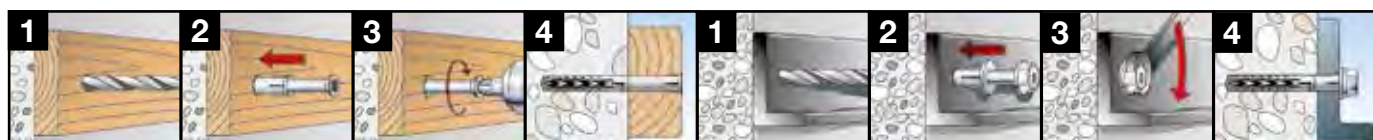
Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627521060	SXR 10 x 60 FUS	10 x 60 mm	10 mm	50 mm	•	50
627521080	SXR 10 x 80 FUS	10 x 80 mm	30 mm	50 mm	•	50
6275210100	SXR 10 x 100 FUS	10 x 100 mm	50 mm	50 mm	•	50
6275210120	SXR 10 x 120 FUS	10 x 120 mm	70 mm	50 mm	•	50
6275210140	SXR 10 x 140 FUS	10 x 140 mm	90 mm	50 mm	•	50
6275210160	SXR 10 x 160 FUS	10 x 160 mm	110 mm	50 mm	•	50
6275210180	SXR 10 x 180 FUS	10 x 180 mm	130 mm	50 mm	•	50
6275210200	SXR 10 x 200 FUS	10 x 200 mm	150 mm	50 mm	•	50
6275210230	SXR 10 x 230 FUS	10 x 230 mm	180 mm	50 mm	•	50
6275210260	SXR 10 x 260 FUS	10 x 260 mm	210 mm	50 mm	•	50



Stainless steel A4

DG 2084

Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627531060	SXR 10 x 60 FUS A4	10 x 60 mm	10 mm	50 mm	•	50
627531080	SXR 10 x 80 FUS A4	10 x 80 mm	30 mm	50 mm	•	50
6275310100	SXR 10 x 80 FUS A4	10 x 100 mm	50 mm	50 mm	•	50
6275310120	SXR 10 x 120 FUS A4	10 x 120 mm	70 mm	50 mm	•	50
6275310140	SXR 10 x 140 FUS A4	10 x 140 mm	90 mm	50 mm	•	50
6275310160	SXR 10 x 160 FUS A4	10 x 160 mm	110 mm	50 mm	•	50
6275310180	SXR 10 x 180 FUS A4	10 x 180 mm	130 mm	50 mm	•	50



Fischer SXRL-T long-shaft dowel with countersunk head screw



Approved by the building authorities: European Technical Approval, approval no. ETA-07/0121 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners. For galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer SXRL-T long shaft dowels are used to fix light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

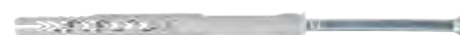
Properties: Material nylon, halogen-free. Complete with pre-installed countersunk screws. Screw drive: TX40

Advantages:

- variable setting depths in aerated concrete 70 mm or 90 mm
- can be delivered by 220 mm
- pre-installed screws save a work step
- variable use thanks to additional redundant approval



galvanized							DG 2084
Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents	
627541080	SXRL 10 x 80 T	10 x 80 T	10 mm	- mm	•	50	
6275410100	SXRL 10 x 100 T	10 x 100 T	30 mm	10 mm	•	50	
6275410120	SXRL 10 x 120 T	10 x 120 T	50 mm	30 mm	•	50	
6275410140	SXRL 10 x 140 T	10 x 140 T	70 mm	50 mm	•	50	
6275410160	SXRL 10 x 160 T	10 x 160 T	90 mm	70 mm	•	50	
6275410180	SXRL 10 x 180 T	10 x 180 T	110 mm	90 mm	•	50	
6275410200	SXRL 10 x 200 T	10 x 200 T	130 mm	110 mm	•	50	
6275410230	SXRL 10 x 230 T	10 x 230 T	160 mm	140 mm	•	50	
6275410260	SXRL 10 x 260 T	10 x 260 T	190 mm	170 mm	•	50	
6275410290	SXRL 10 x 290 T	10 x 290 T	220 mm	200 mm	•	50	



Stainless steel A4							DG 2084
Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents	
6275411080	SXRL 10 x 80 T A4	10 x 80 T A4	10 mm	- mm	•	50	
62754110100	SXRL 10 x 100 T A4	10 x 100 T A4	30 mm	10 mm	•	50	
62754110120	SXRL 10 x 120 T A4	10 x 120 T A4	50 mm	30 mm	•	50	
62754110140	SXRL 10 x 140 T A4	10 x 140 T A4	70 mm	50 mm	•	50	
62754110160	SXRL 10 x 160 T A4	10 x 160 T A4	90 mm	70 mm	•	50	
62754110180	SXRL 10 x 180 T A4	10 x 180 T A4	110 mm	90 mm	•	50	
62754110200	SXRL 10 x 200 T A4	10 x 200 T A4	130 mm	110 mm	•	50	
62754110230	SXRL 10 x 230 T A4	10 x 230 T A4	160 mm	140 mm	•	50	
62754110260	SXRL 10 x 260 T A4	10 x 260 T A4	190 mm	170 mm	•	50	
62754110290	SXRL 10 x 290 T A4	10 x 290 T A4	220 mm	200 mm	•	50	

Fischer long-shaft dowel SXRL-FUS with hexagonal bolt



Approved by the building authorities: European Technical Approval, approval no. ETA-07/0121 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners. For galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer SXRL-FUS long shaft dowels are used to fasten light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties: Material nylon, halogen-free. Complete with pre-installed hexagonal bolts. Screw drive: TX40/WAF 13

Advantages:

- variable setting depths in aerated concrete 70 mm or 90 mm
- can be delivered by 220 mm
- pre-installed screws save a work step
- variable use thanks to additional redundant approval



galvanized

DG 2084

Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents
6275421080	SXRL 10 x 80 FUS	10 x 80 FUS	10 mm	- mm	•	50
62754210100	SXRL 10 x 100 FUS	10 x 100 FUS	30 mm	10 mm	•	50
62754210120	SXRL 10 x 120 FUS	10 x 120 FUS	50 mm	30 mm	•	50
62754210140	SXRL 10 x 140 FUS	10 x 140 FUS	70 mm	50 mm	•	50
62754210160	SXRL 10 x 160 FUS	10 x 160 FUS	90 mm	70 mm	•	50
62754210180	SXRL 10 x 180 FUS	10 x 180 FUS	110 mm	90 mm	•	50
62754210200	SXRL 10 x 200 FUS	10 x 200 FUS	130 mm	110 mm	•	50
62754210230	SXRL 10 x 230 FUS	10 x 230 FUS	160 mm	140 mm	•	50
62754210260	SXRL 10 x 260 FUS	10 x 260 FUS	190 mm	170 mm	•	50
62754210290	SXRL 10 x 290 FUS	10 x 290 FUS	220 mm	200 mm	•	50



Stainless steel A4

DG 2084

Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents
6275431080	SXRL 10 x 80 FUS A4	10 x 80 FUS A4	10 mm	- mm	•	50
62754310100	SXRL 10 x 100 FUS A4	10 x 100 FUS A4	30 mm	10 mm	•	50
62754310120	SXRL 10 x 120 FUS A4	10 x 120 FUS A4	50 mm	30 mm	•	50
62754310140	SXRL 10 x 140 FUS A4	10 x 140 FUS A4	70 mm	50 mm	•	50
62754310160	SXRL 10 x 160 FUS A4	10 x 160 FUS A4	90 mm	70 mm	•	50
62754310180	SXRL 10 x 180 FUS A4	10 x 180 FUS A4	110 mm	90 mm	•	50
62754310200	SXRL 10 x 200 FUS A4	10 x 200 FUS A4	130 mm	110 mm	•	50
62754310230	SXRL 10 x 230 FUS A4	10 x 230 FUS A4	160 mm	140 mm	•	50
62754310260	SXRL 10 x 260 FUS A4	10 x 260 FUS A4	190 mm	170 mm	•	50
62754310290	SXRL 10 x 290 FUS A4	10 x 290 FUS A4	220 mm	200 mm	•	50

Fischer SXRL-T long-shaft dowel with countersunk head screw



Approved by the building authorities: European Technical Approval, approval no. ETA-07/0121 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners. For galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer SXRL-T long shaft dowels are used to fix light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties:

Material nylon, halogen-free. Complete with pre-installed countersunk screws.
Screw drive: TX40

Advantages:

- variable setting depths in aerated concrete 70 mm or 90 mm
- can be delivered by 220 mm
- pre-installed screws save a work step
- variable use thanks to additional redundant approval



galvanized							DG 2084
Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents	
627541080	SXRL 10 x 80 T	10 x 80 T	10 mm		•	50	
6275410100	SXRL 10 x 100 T	10 x 100 T	30 mm	10 mm	•	50	
6275410120	SXRL 10 x 120 T	10 x 120 T	50 mm	30 mm	•	50	
6275410140	SXRL 10 x 140 T	10 x 140 T	70 mm	50 mm	•	50	
6275410160	SXRL 10 x 160 T	10 x 160 T	90 mm	70 mm	•	50	
6275410180	SXRL 10 x 180 T	10 x 180 T	110 mm	90 mm	•	50	
6275410200	SXRL 10 x 200 T	10 x 200 T	130 mm	110 mm	•	50	
6275410230	SXRL 10 x 230 T	10 x 230 T	160 mm	140 mm	•	50	
6275410260	SXRL 10 x 260 T	10 x 260 T	190 mm	170 mm	•	50	
6275410290	SXRL 10 x 290 T	10 x 290 T	220 mm	200 mm	•	50	



Stainless steel A4							DG 2084
Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents	
6275411080	SXRL 10 x 80 T A4	10 x 80 T A4	10 mm		•	50	
62754110100	SXRL 10 x 100 T A4	10 x 100 T A4	30 mm	10 mm	•	50	
62754110120	SXRL 10 x 120 T A4	10 x 120 T A4	50 mm	30 mm	•	50	
62754110140	SXRL 10 x 140 T A4	10 x 140 T A4	70 mm	50 mm	•	50	
62754110160	SXRL 10 x 160 T A4	10 x 160 T A4	90 mm	70 mm	•	50	
62754110180	SXRL 10 x 180 T A4	10 x 180 T A4	110 mm	90 mm	•	50	
62754110200	SXRL 10 x 200 T A4	10 x 200 T A4	130 mm	110 mm	•	50	
62754110230	SXRL 10 x 230 T A4	10 x 230 T A4	160 mm	140 mm	•	50	
62754110260	SXRL 10 x 260 T A4	10 x 260 T A4	190 mm	170 mm	•	50	
62754110290	SXRL 10 x 290 T A4	10 x 290 T A4	220 mm	200 mm	•	50	

Fischer long-shaft dowel SXRL-FUS with hexagonal bolt



Approved by the building authorities: European Technical Approval, approval no. ETA-07/0121 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners. For galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer SXRL-FUS long shaft dowels are used to fasten light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties:

Material nylon, halogen-free. Complete with pre-installed hexagonal bolts.
Screw drive: TX40/WAF 13

Advantages:

- variable setting depths in aerated concrete 70 mm or 90 mm
- can be delivered by 220 mm
- pre-installed screws save a work step
- variable use thanks to additional redundant approval



galvanized

DG 2084

Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents
6275421080	SXRL 10 x 80 FUS	10 x 80 FUS	10 mm		•	50
62754210100	SXRL 10 x 100 FUS	10 x 100 FUS	30 mm	10 mm	•	50
62754210120	SXRL 10 x 120 FUS	10 x 120 FUS	50 mm	30 mm	•	50
62754210140	SXRL 10 x 140 FUS	10 x 140 FUS	70 mm	50 mm	•	50
62754210160	SXRL 10 x 160 FUS	10 x 160 FUS	90 mm	70 mm	•	50
62754210180	SXRL 10 x 180 FUS	10 x 180 FUS	110 mm	90 mm	•	50
62754210200	SXRL 10 x 200 FUS	10 x 200 FUS	130 mm	110 mm	•	50
62754210230	SXRL 10 x 230 FUS	10 x 230 FUS	160 mm	140 mm	•	50
62754210260	SXRL 10 x 260 FUS	10 x 260 FUS	190 mm	170 mm	•	50
62754210290	SXRL 10 x 290 FUS	10 x 290 FUS	220 mm	200 mm	•	50



Stainless steel A4

DG 2084

Item no.	Type	Dimension	Max. clamping range at anchoring depth 70 mm	Max. clamping range at anchoring depth 90 mm	Price per 100 pieces	Package contents
6275431080	SXRL 10 x 80 FUS A4	10 x 80 FUS A4	10 mm		•	50
62754310100	SXRL 10 x 100 FUS A4	10 x 100 FUS A4	30 mm	10 mm	•	50
62754310120	SXRL 10 x 120 FUS A4	10 x 120 FUS A4	50 mm	30 mm	•	50
62754310140	SXRL 10 x 140 FUS A4	10 x 140 FUS A4	70 mm	50 mm	•	50
62754310160	SXRL 10 x 160 FUS A4	10 x 160 FUS A4	90 mm	70 mm	•	50
62754310180	SXRL 10 x 180 FUS A4	10 x 180 FUS A4	110 mm	90 mm	•	50
62754310200	SXRL 10 x 200 FUS A4	10 x 200 FUS A4	130 mm	110 mm	•	50
62754310230	SXRL 10 x 230 FUS A4	10 x 230 FUS A4	160 mm	140 mm	•	50
62754310260	SXRL 10 x 260 FUS A4	10 x 260 FUS A4	190 mm	170 mm	•	50
62754310290	SXRL 10 x 290 FUS A4	10 x 290 FUS A4	220 mm	200 mm	•	50

i Loads for SXR long shaft dowels

Highest permissible loads of a single dowel in masonry

Masonry		German approval for the fixing of facades		Europ. approval (ETA) ¹⁰⁾ for multi-fasteners of non-structural systems (redundant)	
		Ø 8 mm	Ø 10 mm	Ø 8 mm	Ø 10 mm
Solid brick ≥ Mz 12	[kN]	0.40 / 0.50 ¹⁾	0.60 / 0.80 ¹⁾	0.57	0.40 / 0.80 ²⁾
Solid brick ≥ Mz 20	[kN]	0.40 / 0.50 ¹⁾	0.60 / 0.80 ¹⁾	0.70	0.57 / 1.14 ²⁾
Solid sand-lime brick ≥ KS 12	[kN]	0.40 / 0.50 ¹⁾	0.60 / 0.80 ¹⁾	0.60	0.90
Solid sand-lime brick ≥ KS 20	[kN]	0.40 / 0.50 ¹⁾	0.60 / 0.80 ¹⁾	0.70	1.29
Hollow brick ≥ HLz 12, bulk density ≥ 1.0 kg/dm ³	[kN]	-	0.30	0.17	0.40
Hollow brick Poroton T14	[kN]	-	-	-	0.09
Porous sand-lime brick ≥ KSL 6	[kN]	-	0.40	0.43	0.57 ²⁾
Porous sand-lime brick ≥ KSL 12	[kN]	-	0.40	0.57	0.57
Hollow lightweight concrete blocks ≥ HBI 2	[kN]	-	0.25	-	0.43
Solid lightweight concrete bricks ≥ V 2	[kN]	0.15	0.25	0.34	0.34
Solid lightweight concrete bricks ≥ V 6	[kN]	0.15	0.25	0.25	0.70
Aerated concrete PP2 / P3.3	[kN]	-	0.20 ³⁾	-	0.14 ³⁾
Aerated concrete ≥ PP4 / P4.4	[kN]	-	0.30	-	0.28
Permissible bending moment	M _{perm} [Nm]	7.1 / 4.9 ⁹⁾	10.1 / 9.5 ⁹⁾	7.1 / 5.8 ⁹⁾	10.1 / 9.5 ⁹⁾
Minimum component thickness	h _{min} [mm]	115		100	
Single dowel axial spacing	a [mm]	100	100 / 250 ⁴⁾	250	250
Axial spacing within dowel group	s ₁ / s ₂ [mm]	100	100 / 100 ⁵⁾	100	100 / 100 200 ⁵⁾ / 400 ⁵⁾
Edge spacing	a _i / c [mm]	100 / 250 ⁶⁾	100 / 250 ⁶⁾	100 ⁷⁾	100 ⁷⁾
Effective anchoring depth	h _{ef} [mm]	50		50	

The entire Z-21.2-1862 or ETA-07/0121 approval notice is to be observed for the measurement.

All loads relate to a long-term temperature of 50 °C and a short-term temperature of 80 °C. A safety factor of $\gamma_F = 1.4$ was included.

1) solid brick

2) applies to edge spacing $c \geq 200$ mm

3) borehole creation by means of plungers

4) for perforated bricks

5) load reduction by 50% for perforated bricks

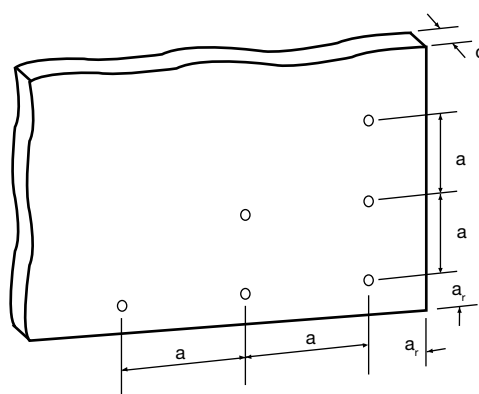
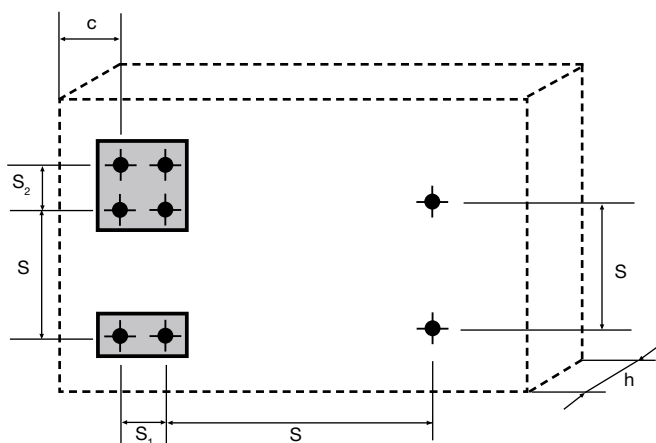
6) applies to aerated concrete

7) greater spacing necessary partially dependent on masonry

8) without load or tilt indication

9) with A4 screws

10) The block sizes/perforations defined in the ETA are to be observed.



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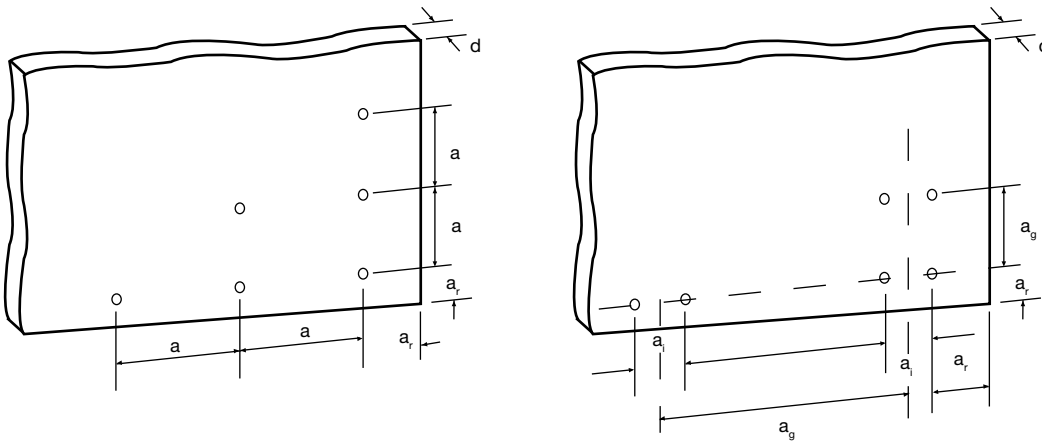
① Loads for SXR long shaft dowels

Highest permissible loads of a single dowel as a multi-fastener for facade paneling in normal concrete

Concrete \geq B15 (C12/15)		German approval for the fixing of facades		
		\varnothing 8 mm	\varnothing 10 mm	
Permissible tensile load-bearing capacity	[kN]	0.5	0.80	1.60
Permissible shear load-bearing capacity	[kN]	0.5	0.80	1.60
Permissible bending moment	M_{perm} [Nm]	7.1 / 4.9 ¹⁾ 10.1 / 9.5 ¹⁾		
Minimum component thickness	h_{min} [mm]	100		
Single dowel axial spacing	a [mm]	100	100	150
Axial spacing in the group	a_i [mm]	50	50	50
Axial spacing group to group	a_g [mm]	150	150	300
Edge spacing	a_r [mm]	50	50	100
Effective anchoring depth	h_{ef} [mm]	50		

The entire Z-21.2-1862 approval notice is to be observed for the measurement.

1) with A4 screws



① Loads for SXR long shaft dowels

Highest permissible loads of a single dowel as a multi-fastener of non-structural systems in normal concrete

Concrete ≥ B15 (C12/15)		Europ. approval (ETA) for multi-fasteners of non-structural systems (redundant)			
		Ø 8 mm		Ø 10 mm	
Permissible tensile load-bearing capacity ²⁾	[kN]	1.00		1.79	
Permissible shear load-bearing capacity ²⁾	[kN]	4.23 / 3.43 ¹⁾		5.37 / 4.98 ¹⁾	
Permissible bending moment	M _{perm} [Nm]	7.1 / 5.75 ¹⁾		10.1 / 9.5 ¹⁾	
Minimum component thickness	h _{min} [mm]	100			
Concrete strength		C 12/15	C 16/20	C 12/15	C 16/20
Min. axial spacing	a _{min} [mm]	70	50	70 ³⁾	50 ³⁾
Char. edge spacing	c _{cr,N} [mm]	70	50	140	100
Effective anchoring depth	h _{ef} [mm]	50			

The entire ETA-07/0121 approval notice is to be observed for the measurement.

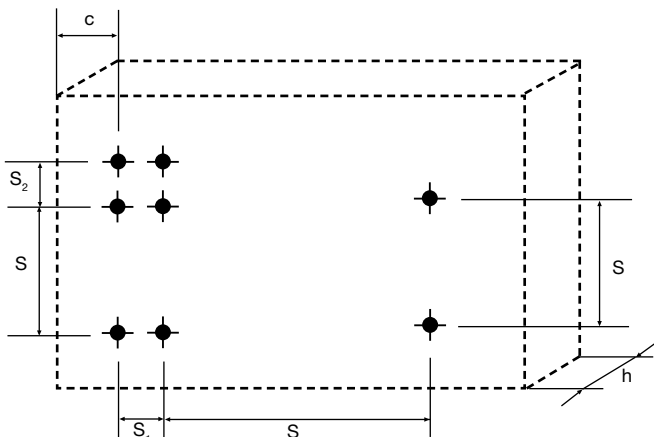
All loads relate to a long-term temperature of 50 °C and a short-term temperature of 80 °C.

A safety factor of $\gamma_F = 1.4$ was included.

1) with A4 screws

2) Max. permissible load per single dowel without edge influence with $\gamma_F = 1.4$ (for additional conditions for groups and limits, see the approval)

3) Minimum edge spacing with simultaneous increase of $c_{cr,N}$. See approval for dimensions.



Fischer frame dowels FUR-T with countersunk screw



Approved by the building authorities: Building Standards Approval, approval no. Z-21.2-1204 for masonry, hollow brick, sand-lime bricks, aerated concrete and in concrete for galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer FUR frame dowels are used to fasten light to medium-weight objects in concrete, solid brick, hollow brick and sand-lime bricks. Main areas of application include substructures of wall and facade paneling, wood and metal structures as well as window and door frames.

Properties: Material: Nylon, halogen-free. Unique lamella technology for high expansion forces in solid building material or stone base as well as for secure interlocking in the cavity. Integrated knock-in lock prevents premature expanding. Complete with pre-installed countersunk head screws. Screw drive: TX30 for FUR-T 8, TX40 for FUR-T 10 and TX50 for FUR-T 14.

Advantage:

- pre-installed screws save a work step

Note: Dowels are only permitted in conjunction with the included Fischer safety screws.



DG 2084

galvanized

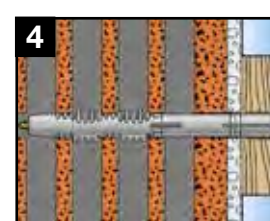
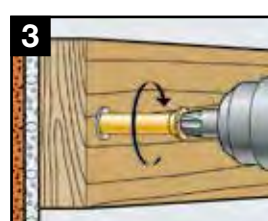
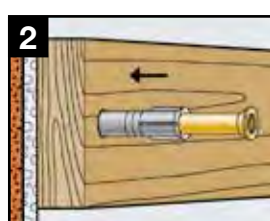
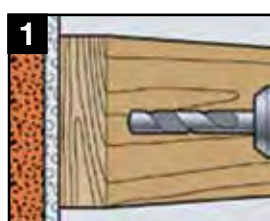
Item no.	Type	Dowel Ø x length	Clamping range, max.	Minimum anchoring depth	Price per 100 pieces	Package contents
6210780	FUR 8/80 T	8 x 80 mm	10 mm	70 mm	•	50
62107100	FUR 8/100 T	8 x 100 mm	30 mm	70 mm	•	50
62107120	FUR 8/120 T	8 x 120 mm	50 mm	70 mm	•	50
6210980	FUR 10/80 T	10 x 80 mm	10 mm	70 mm	•	50
62109100	FUR 10/100 T	10 x 100 mm	30 mm	70 mm	•	50
62109115	FUR 10/115 T	10 x 115 mm	45 mm	70 mm	•	50
62109135	FUR 10/135 T	10 x 135 mm	65 mm	70 mm	•	50
62109160	FUR 10/160 T	10 x 160 mm	90 mm	70 mm	•	50
62109185	FUR 10/185 T	10 x 185 mm	115 mm	70 mm	•	50
62109200	FUR 10/200 T	10 x 200 mm	130 mm	70 mm	•	50
62109230	FUR 10/230 T	10 x 230 mm	160 mm	70 mm	•	50
62114100	FUR 14/100 T	14 x 100 mm	30 mm	70 mm	•	50
62114140	FUR 14/140 T	14 x 140 mm	70 mm	70 mm	•	50
62114165	FUR 14/165 T	14 x 165 mm	95 mm	70 mm	•	50
62114180	FUR 14/180 T	14 x 180 mm	110 mm	70 mm	•	50
62114240	FUR 14/240 T	14 x 240 mm	170 mm	70 mm	•	50
62114270	FUR 14/270 T	14 x 270 mm	200 mm	70 mm	•	50



DG 2084

Stainless steel A4

Item no.	Type	Dowel Ø x length	Clamping range, max.	Minimum anchoring depth	Price per 100 pieces	Package contents
62110801	FUR 8/80 T	8 x 80 mm	10 mm	70 mm	•	50
6211101001	FUR 8/100 T	8 x 100 mm	30 mm	70 mm	•	50
621101201	FUR 8/120 T	8 x 120 mm	50 mm	70 mm	•	50
6211080	FUR 10/80 T	10 x 80 mm	10 mm	70 mm	•	50
62110100	FUR 10/100 T	10 x 100 mm	30 mm	70 mm	•	50
62110115	FUR 10/115 T	10 x 115 mm	45 mm	70 mm	•	50
62110135	FUR 10/135 T	10 x 135 mm	65 mm	70 mm	•	50
62110160	FUR 10/160 T	10 x 160 mm	90 mm	70 mm	•	50
62110185	FUR 10/185 T	10 x 185 mm	115 mm	70 mm	•	50
62110200	FUR 10/200 T	10 x 200 mm	130 mm	70 mm	•	50



Fischer FUR-SS frame dowel with hexagonal bolt



Approved by the building authorities: Building Standards Approval, approval no. Z-21.2-1204 for masonry, hollow brick, sand-lime bricks, aerated concrete and in concrete for galvanically zinc-plated steel and stainless steel A4.

Application: The Fischer FUR frame dowels are used to fasten light to medium-weight objects in concrete, solid brick, hollow brick and sand-lime bricks. Main areas of application include substructures of wall and facade paneling, wood and metal structures as well as window and door frames.

Properties: Material nylon, halogen-free. Unique lamella technology for high expansion forces in solid building material or stone base as well as for secure interlocking in the cavity. Integrated knock-in lock prevents premature expanding. Complete with pre-installed hexagonal bolts. Screw drive: WAF 10 for FUR-SS 8, WAF 13 for FUR-SS 10 and WAF 17 for FUR-SS 14.

Advantage:

- pre-installed screws save a work step

Note: Dowels are only permitted in conjunction with the included Fischer safety screws.



DG 2084

galvanized

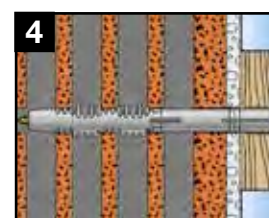
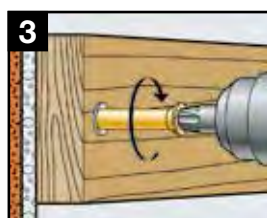
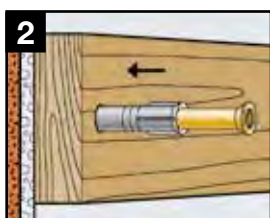
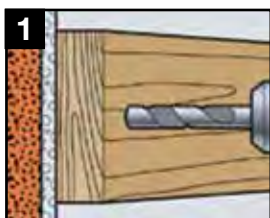
Item no.	Type	Dowel Ø x length	Clamping range, max.	Minimum anchoring depth	Price per 100 pieces	Package contents
6210880	FUR 8/80 SS	8 x 80 mm	10 mm	70 mm	•	50
62108100	FUR 8/100 SS	8 x 100 mm	30 mm	70 mm	•	50
6211180	FUR 10/80 SS	10 x 80 mm	10 mm	70 mm	•	50
62111100	FUR 10/100 SS	10 x 100 mm	30 mm	70 mm	•	50
62111115	FUR 10/115 SS	10 x 115 mm	45 mm	70 mm	•	50
62111135	FUR 10/135 SS	10 x 135 mm	65 mm	70 mm	•	50
62111160	FUR 10/160 SS	10 x 160 mm	90 mm	70 mm	•	50
62111185	FUR 10/185 SS	10 x 185 mm	115 mm	70 mm	•	50
62111200	FUR 10/200 SS	10 x 200 mm	130 mm	70 mm	•	50
62111230	FUR 10/230 SS	10 x 230 mm	160 mm	70 mm	•	50
62115100	FUR 14/100 F SS	14 x 100 mm	30 mm	70 mm	•	50
62115140	FUR 14/140 F SS	14 x 140 mm	70 mm	70 mm	•	50
62115165	FUR 14/165 F SS	14 x 165 mm	95 mm	70 mm	•	50
62115180	FUR 14/180 F SS	14 x 180 mm	110 mm	70 mm	•	50
62115240	FUR 14/240 F SS	14 x 240 mm	170 mm	70 mm	•	50
62115270	FUR 14/270 F SS	14 x 270 mm	200 mm	70 mm	•	50



DG 2084

Stainless steel A4

Item no.	Type	Dowel Ø x length	Clamping range, max.	Minimum anchoring depth	Price per 100 pieces	Package contents
62112801	FUR 8/80 SS	8 x 80 mm	10 mm	70 mm	•	50
621121001	FUR 8/100 SS	8 x 100 mm	30 mm	70 mm	•	50
6211280	FUR 10/80 SS	10 x 80 mm	10 mm	70 mm	•	50
62112100	FUR 10/100 SS	10 x 100 mm	30 mm	70 mm	•	50
62112115	FUR 10/115 SS	10 x 115 mm	45 mm	70 mm	•	50
62112135	FUR 10/135 SS	10 x 135 mm	65 mm	70 mm	•	50
62112160	FUR 10/160 SS	10 x 160 mm	90 mm	70 mm	•	50
62112200	FUR 10/200 SS	10 x 200 mm	130 mm	70 mm	•	50
62112230	FUR 10/230 SS	10 x 230 mm	160 mm	70 mm	•	50



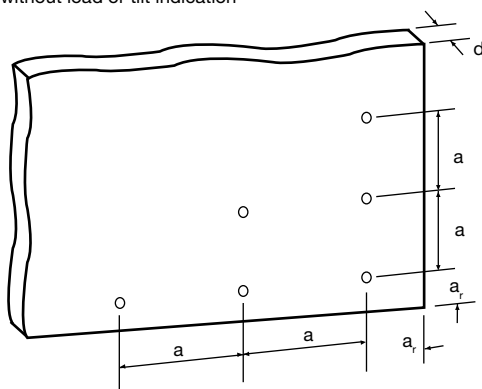
i Loads for FUR universal frame dowel

Highest permissible loads of a single dowel in masonry

Masonry		German approval for the fixing of facades		
		Ø 8 mm	Ø10 mm	Ø 14 mm
Solid brick \geq Mz 12	[kN]	0.40 / 0.60 ¹⁾	0.60 / 0.80 ¹⁾	0.60 / 0.80 ¹⁾
Solid sand-lime brick \geq KS 12	[kN]	0.40 / 0.60 ¹⁾	0.60 / 0.80 ¹⁾	0.60 / 0.80 ¹⁾
Hollow brick \geq HLz 12, bulk density \geq 1.0 kg/dm ³	[kN]	-	0.30	0.50
Porous sand-lime brick \geq KSL 6	[kN]	-	0.40	0.60
Hollow lightweight concrete blocks \geq HBI 2	[kN]	-	0.25	0.30
Solid lightweight concrete bricks \geq V 2	[kN]	-	0.25	0.50
Three-layered weather shell \geq B 15 ²⁾	[kN]	-	0.60	-
Porous lightweight concrete ²⁾	[kN]	-	0.30	0.70
Permissible bending moment	M _{perm} [Nm]	5.0 / 4.2 ³⁾	10.1 / 8.5 ³⁾	27.8 / 26.1 ³⁾
Minimum component thickness	h _{min} [mm]	115		
Single dowel axial spacing	a [mm]	100	100 ⁵⁾ / 250 ⁴⁾	250
Axial spacing within dowel group	a _g [mm]	100	100 ⁵⁾ / 250 ⁴⁾	250
Edge spacing	a _r [mm]	100 / 250 ⁶⁾	100 / 250 ⁵⁾	100 / 400 ⁶⁾
Effective anchoring depth	h _{ef} [mm]	70		

The entire Z-21.2-1204 approval notice is to be observed for the measurement.

- 1) solid brick
- 2) see approval for axial and edge spacing as well as component geometry
- 3) with A4 screws
- 4) for perforated bricks
- 5) load reduction by 50% for perforated bricks
- 6) without load or tilt indication



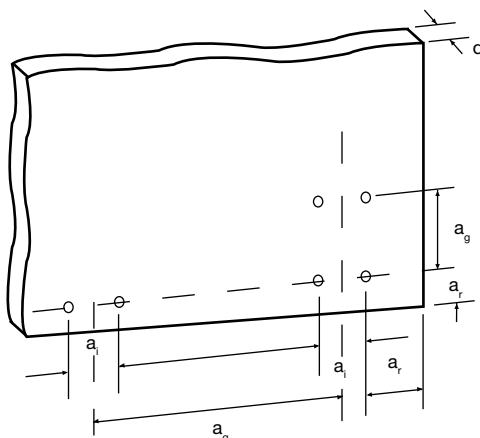
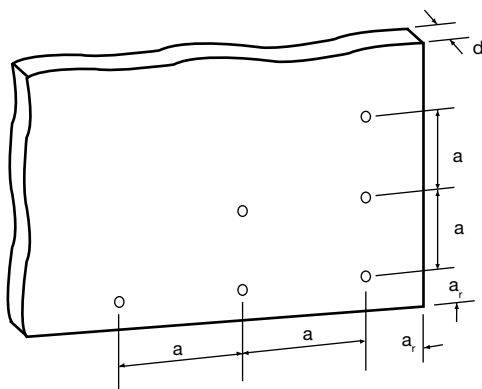
i Loads for FUR universal frame dowel

Highest permissible loads of a single dowel as a multi-fastener for facade paneling in normal concrete

Concrete \geq B15 (C12/15)		German approval for the fixing of facades					
		Ø 8 mm		Ø10 mm		Ø 14 mm	
Permissible tensile load-bearing capacity	[kN]	0.50	1.00	0.80	1.60	1.20	1.80
Permissible shear load-bearing capacity	[kN]	0.50	1.00	0.80	1.60	1.20	1.80
Permissible bending moment	M _{perm} [Nm]	5.0 / 4.2 ¹⁾		10.1 / 8.5 ¹⁾		27.8 / 26.1 ¹⁾	
Minimum component thickness	h _{min} [mm]	100		120		120	
Axial spacing	a [mm]	100	100	100	150	100	150
Axial spacing in the group	a _g [mm]	50	50	50	50	80	50
Axial spacing group to group	a _g [mm]	150	240	150	300	180	300
Edge spacing	a _r [mm]	50	60	50	100	60	100
Effective anchoring depth	h _{ef} [mm]	70					

The entire Z-21.2-1204 approval notice is to be observed for the measurement.

- 1) with A4 screws



KTS frame facade dowel type KT-SL

Approved by the building authorities: European Technical Approval, approval no. ETA-08/0188 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners for galvanically zinc-plated steel and stainless steel A4. In special cases, the dowel may also be used with galvanized screws and also for applications in the open (see approval section 1.2).

Application: The KTS F1 frame dowels are used to fasten light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties: Material nylon, halogen-free. Screw-in locking on the dowel neck, reinforced contour on the dowel shaft. Complete with countersunk screws. Screw drive: TX40 for all dimensions.

Note: Dowels are only permitted in conjunction with the included KTS screws.



galvanized

DG 2088

Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627701080	KT 10 x 80SL	10 x 80 mm	10 mm	70 mm	•	100
6277010100	KT10 x 100SL	10 x 100 mm	30 mm	70 mm	•	100
6277010120	KT10 x 120SL	10 x 120 mm	50 mm	70 mm	•	100
6277010140	KT10 x 140SL	10 x 140 mm	70 mm	70 mm	•	100
6277010160	KT10 x 160SL	10 x 160 mm	90 mm	70 mm	•	100
6277010180	KT10 x 180SL	10 x 180 mm	110 mm	70 mm	•	100
6277010200	KT10 x 200SL	10 x 200 mm	110 mm	70 mm	•	100
6277010220	KT10 x 220SL	10 x 220 mm	150 mm	70 mm	•	100
6277010240	KT10 x 240SL	10 x 240 mm	170 mm	70 mm	•	100



Stainless steel A4

DG 2088

Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627721080	KT10 x 80SL-A4	10 x 80 mm	10 mm	70 mm	•	100
6277210100	KT10 x 100SL-A4	10 x 100 mm	30 mm	70 mm	•	100
6277210120	KT10 x 120SL-A4	10 x 120 mm	50 mm	70 mm	•	100
6277210140	KT10 x 140SL-A4	10 x 140 mm	70 mm	70 mm	•	100
6277210160	KT10 x 160SL-A4	10 x 160 mm	90 mm	70 mm	•	100

KTS frame facade dowel type KT-KL hexagon head

Approved by the building authorities: European Technical Approval, approval no. ETA-08/0188 for masonry, hollow brick, sand-lime brick, aerated concrete and in concrete for redundant (multi-) fasteners. For galvanically zinc-plated steel and stainless steel A4. In special cases, the dowel may also be used with galvanized screws and also for applications in the open (see approval section 1.2).

Application: The KTS frame dowels are used to fasten light to medium-weight objects in concrete, masonry and aerated concrete. Main application areas include substructures of wall and facade paneling, wood and metal structures as well as ceiling suspensions, cable lines and much more, thanks to the option of redundant fastening.

Properties: Material nylon, halogen-free. Screw-in locking on the dowel neck, reinforced contour on the dowel shaft. Complete with hexagonal bolts and pressed-on washer. Screw drive: WAF 13.

Note: Dowels are only permitted in conjunction with the included KTS screws.



galvanized

DG 2088

Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627711080	KT10 x 80KL	10 x 80 mm	10 mm	70 mm	•	100
6277110100	KT10 x 100KL	10 x 100 mm	30 mm	70 mm	•	100
6277110120	KT10 x 120KL	10 x 120 mm	50 mm	70 mm	•	100
6277110140	KT10 x 140KL	10 x 140 mm	70 mm	70 mm	•	100
6277110160	KT10 x 160KL	10 x 160 mm	90 mm	70 mm	•	100
6277110180	KT10 x 180KL	10 x 180 mm	110 mm	70 mm	•	100
6277110200	KT10 x 200KL	10 x 200 mm	130 mm	70 mm	•	100
6277110220	KT10 x 220KL	10 x 220 mm	150 mm	70 mm	•	100
6277110240	KT10 x 240KL	10 x 240 mm	170 mm	70 mm	•	100



Stainless steel A4

DG 2088

Item no.	Type	Dowel Ø x length	Clamping range, max.	Anchoring depth	Price per 100 pieces	Package contents
627731080	KT10 x 80KL-A4	10 x 80 mm	10 mm	70 mm	•	100
6277310100	KT10 x 100KL-A4	10 x 100 mm	30 mm	70 mm	•	100
6277310120	KT10 x 120KL-A4	10 x 120 mm	50 mm	70 mm	•	100
6277310140	KT10 x 140KL-A4	10 x 140 mm	70 mm	70 mm	•	100
6277310160	KT10 x 160KL-A4	10 x 160 mm	90 mm	70 mm	•	100

Continued on the next page

① Characteristic load-bearing capacity for use in concrete

Concrete \geq C 16/20

Type	Temperature	Characteristic tensile load-bearing capacity	Partial safety factor must be taken into consideration
		$N_{Rk,p}$ [kN]	
KT 10	24/40 °C	5.0	1.8
	50/80 °C	3.5	
KT 14	24/40 °C	7.5	
	50/80 °C	5.0	

Concrete C 12/15

Type	Temperature	Characteristic tensile load-bearing capacity	Partial safety factor must be taken into consideration
		$N_{Rk,p}$ [kN]	
KT 10	24/40 °C	3.5	1.8
	50/80 °C	2.5	
KT 14	24/40 °C	5.0	
	50/80 °C	3.5	

The entire ETA-08/0188 approval notice is to be observed for the measurement.

① Characteristic load-bearing capacity F_{Rk} in [kN] in aerated concrete AAC (usage category "d")

Anchoring base	Gross density class	Minimum compressive strength	Drilling method	Characteristic load-bearing capacity FRK [kN]	
	ρ [kg/m³]	f_{ck} [N/mm²]		24/40 °C	50/80 °C
AAC2, PP2/0.35	≥ 350	1.8	Hammer drilling	0.9	0.75
AAC6, PP6-0.7	≥ 650	5.4	Hammer drilling	2.5	2.5
Partial safety factor must be taken into consideration		$\gamma_{M,AAC}$		2.0	

The entire ETA-08/0188 approval notice is to be observed for the measurement.

① Characteristic load-bearing capacity F_{Rk} in [kN] in solid masonry and perforated brick and hollow brick masonry (usage category "b" and "c")

Usage category	Anchoring base	Characteristic load-bearing capacity FRK [kN]			
		KT 10		KT 14	
		24/40 °C	50/80 °C	24/40 °C	50/80 °C
b	Bricks DIN EN 771-1 Mz-NF	4.0	3.5	4.5	4.5
		6.0		7.5	5.0
		3.0	2.5	3.0	3.0
		4.5		5.0	3.5
		6.0	3.5		
		5.0	2.5		
	Solid sand-lime brick DIN EN 771-2 KS-NF	1.5	1.5	1.5	1.5
		1.2	1.2	1.2	1.2
		6.0	4.0	9.0	6.0
		5.0	3.0	6.0	4.0
		4.0	4.0	4.5	4.5
		6.0		9.0	9.0
c	Solid sand-lime brick DIN EN 771-2 KS-2DF	3.0	3.0	3.0	3.0
		4.5		6.0	6.0
	Perforated bricks DIN EN 771-1 HLz-2DF	1.5	0.75		
	Porous sand-lime brick DIN EN 771-2 KSL-8DF	1.2	0.6		
	Partial safety factor must still be taken into account	$\gamma_{M,AAC}$		2.5	

Fischer metal frame dowel FM 8

Application: The Fischer FM 8 metal frame anchors are used to fasten aluminum and plastic window frames with narrow rebates in concrete, natural stone, solid bricks and sand-lime bricks.

Properties: Aluminum-zinc coated dowel sleeves with galvanized screws. Latching noses ensure a tight and pressure-resistant connection. Complete with round head screws.



galvanized						DG 2098
Item no.	Dowel Ø x length	Drill Ø	Minimum anchoring depth	Price per 100 pieces	Package contents	
62091872	8 x 72 mm	8 mm	30 mm	•	100	
62091892	8 x 92 mm	8 mm	30 mm	•	100	
6209181121	8 x 112 mm	8 mm	30 mm	•	100	
620918132	8 x 132 mm	8 mm	30 mm	•	100	

Toge metal frame dowel TU 10

Approved by the building authorities: European Technical Approval, Option 8, non-cracked concrete, approval no. ETA-09/0237 and ETA-09/0238 for use as (redundant) multi-fastener.

Application: The Toge TU 10 metal frame dowels are used to fasten window and door frames in concrete, natural stone, solid bricks and solid sand-lime bricks.

Properties: Aluminum-zinc coated dowel sleeves with galvanized screws. Knock-in lock against premature expansion. Complete with round head screws.

Installation instructions: Installation only permitted with torque wrench.



galvanized						DG 2096
Item no.	Ø x overall length	Drill Ø	Minimum anchoring depth	Price per 100 pieces	Package contents	
620911072	10 x 72 mm	10 mm	30 mm	•	100	
620911092	10 x 92 mm	10 mm	30 mm	•	100	
6209110112	10 x 112 mm	10 mm	30 mm	•	100	
6209110132	10 x 132 mm	10 mm	30 mm	•	100	
6209110152	10 x 152 mm	10 mm	30 mm	•	100	
6209110182	10 x 182 mm	10 mm	30 mm	•	100	
6209110202	10 x 202 mm	10 mm	30 mm	•	100	

ⓘ Loads for metal frame dowel TU 10 galv. zinc-plated

Permissible loads of a single dowel for multi-fasteners of non-structural systems in cracked concrete (concrete tensile zone) of strength C20/25 (~B25)

Type	effective anchoring depth	minimum component thickness	permissible load	necessary edge spacing for permissible load	necessary axial spacing for permissible load
	h_{ef} [mm]	h_{min} [mm]	F_{perm} [kN]	$c_{cr, N}$ [mm]	$s_{cr, N}$ [mm]
TU 10	40	100	2.9	60	120

Permissible loads of a single dowel in non-cracked normal concrete (concrete pressure zone) of strength C 20/25 (~ B25)

TU 10	40	100	3.6	60	120
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The two approval notices ETA-09/0237 and ETA-09/0238 (multiple use for non-structural systems) are to be observed.

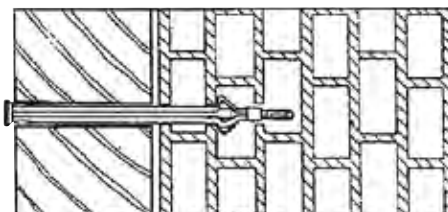
Toge metal frame dowel for hollow brick TK 10

Application: The Toge TK 10 metal frame dowels are used to fasten window and door frames in aerated concrete, hollow brick, perforated sand-lime bricks and hollow blocks.

Properties: Multi-slotted expansion sleeve for perforated brick. Aluminum-zinc coated dowel sleeves with galvanized screws. Knock-in lock against premature expansion. Complete with round head screws.

Advantages:

- ideal for installation in perforated brick



galvanized

DG 2096

Item no.	Ø x overall length	Drill Ø	Minimum anchoring depth	Price per 100 pieces	Package contents
6209010112	10 x 112 mm	10 mm	50 mm	•	100
6209010132	10 x 132 mm	10 mm	50 mm	•	100
6209010152	10 x 152 mm	10 mm	50 mm	•	100
6209010182	10 x 182 mm	10 mm	50 mm	•	100

Concrete frame screw

Application: The concrete frame screws are used to fasten window frames in nearly all building materials.

Properties: Fastening without dowels for a tight and pressure-resistant screw connection for window frames. Self-cutting, continuous thread. With countersunk head screws for metal and plastic windows. The continuous thread prevents the frame from being pulled up to the material.



with countersunk head TX 30

DG 2094

Item no.	Screw Ø x length	Hole Ø in masonry	Hole Ø in frames	Price per 100 pieces	Package contents
6210272	7.5 x 72 mm	6 mm	6.2 mm	•	100
6210280	7.5 x 92 mm	6 mm	6.2 mm	•	100
62102100	7.5 x 112 mm	6 mm	6.2 mm	•	100
62102120	7.5 x 132 mm	6 mm	6.2 mm	•	100
62102150	7.5 x 152 mm	6 mm	6.2 mm	•	100
62102180	7.5 x 182 mm	6 mm	6.2 mm	•	100
62102212	7.5 x 212 mm	6 mm	6.2 mm	•	100



with cheese head TX 25

DG 2094

Item no.	Screw Ø x length	Hole Ø in masonry	Hole Ø in frames	Price per 100 pieces	Package contents
6211372	7.5 x 72 mm	6 mm	6.2 mm	•	100
6211392	7.5 x 92 mm	6 mm	6.2 mm	•	100
62113112	7.5 x 112 mm	6 mm	6.2 mm	•	100
62113132	7.5 x 132 mm	6 mm	6.2 mm	•	100
62113152	7.5 x 152 mm	6 mm	6.2 mm	•	100
62113182	7.5 x 182 mm	6 mm	6.2 mm	•	100
62113212	7.5 x 212 mm	6 mm	6.2 mm	•	100

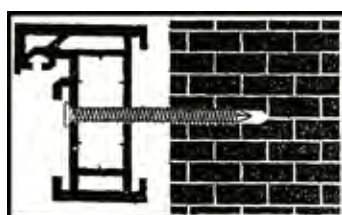
Continuation of concrete frame screw



with cheese head TX 30

DG 2094

Item no.	Screw Ø x length	Hole Ø in masonry	Hole Ø in frames	Price per 100 pieces	Package contents
6211572	7.5 x 72	6	6.2	•	100
6211592	7.5 x 92	6	6.2	•	100
62115112	7.5 x 112	6	6.2	•	100
62115132	7.5 x 132	6	6.2	•	100
62115152	7.5 x 152	6	6.2	•	100
62115182	7.5 x 182	6	6.2	•	100
62115212	7.5 x 212	6	6.2	•	100



Screw-in depths

Material	20 mm	30 mm	40 mm	50 mm	60 mm
Concrete					
Sand-lime brick					
Solid bricks					
Pumice					
Lightweight concrete					
Honeycomb brick					

FAKKT nail anchor with flat collar

FAKKT

Application: Nail anchors are used to fasten light objects such as slats, laths, cable ducts, clips, profiles, and much more in concrete, solid bricks, sand-lime bricks or aerated concrete and to a lesser degree in hollow bricks.

Properties: Nylon, halogen-free. With flat, surface-mounted collar and galvanized pan head nail-screws. Quick and simple push-through installation. It is possible to make later adjustments thanks to the additional cross recess, and removal in the event of faulty installation is easy.

Note: If installation is done in hollow bricks, it should be noted that the front expansion zone part of the nail anchor fully catches at least one stone base.



Nylon

DG 2087

Item no.	Hole Ø x dowel length	Anchoring depth min.	Clamping range, max.	Price per 100 pieces	Package contents
62844530	5 x 30	30 mm	-	•	200
62844540	5 x 40	40 mm	-	•	200
62844635	6 x 35	25 mm	5 mm	•	200
62844640	6 x 40	30 mm	10 mm	•	200
62844650	6 x 50	30 mm	20 mm	•	200
62844660	6 x 60	30 mm	30 mm	•	200
62844680	6 x 80	30 mm	50 mm	•	100
62844860	8 x 60	40 mm	20 mm	•	100
62844880	8 x 80	40 mm	40 mm	•	100
628448100	8 x 100	40 mm	60 mm	•	100

Continued on the next page

FAKKT nail anchor with countersunk collar

FAKKT

Application: Nail anchors are used to fasten light objects such as slats, laths, cable ducts, clips, profiles, substructures, and much more in concrete, solid bricks, sand-lime bricks or aerated concrete and to a lesser degree in hollow bricks.

Properties: Nylon, halogen-free. With countersunk collar and galvanized pan head nail-screws. Quick and simple push-through installation. It is possible to make later adjustments thanks to the additional cross recess, and removal in the event of faulty installation is easy.

Note: If installation is done in hollow bricks, it should be noted that the front expansion zone part of the nail anchor fully catches at least one stone base.



Nylon

DG 2087

Item no.	Hole Ø x dowel length	Anchoring depth min.	Clamping range, max.	Price per 100 pieces	Package contents
62845640	6 x 40	30 mm	10 mm	•	200
62845650	6 x 50	30 mm	20 mm	•	200
62845660	6 x 60	30 mm	30 mm	•	200
62845680	6 x 80	30 mm	50 mm	•	100
62845860	8 x 60	40 mm	20 mm	•	100
62845880	8 x 80	40 mm	40 mm	•	100
628458100	8 x 100	40 mm	60 mm	•	100
628458120	8 x 120	40 mm	80 mm	•	100
628458140	8 x 140	40 mm	100 mm	•	100
628458160	8 x 160	40 mm	120 mm	•	100

Fischer nail anchor N

fischer
innovative solutions

Application: Nail anchors are used to fasten light objects such as slats, laths, cable ducts, clips, profiles, substructures and much more in concrete, solid bricks, solid sand-lime bricks or aerated concrete and to a lesser degree in hollow bricks.

Properties: Nylon, halogen-free. With countersunk collar and galvanized pan head nail-screws. Quick and simple push-through installation. Integrated knock-in stop prevents premature expanding. It is possible to make later adjustments thanks to the additional cross recess, and removal in the event of faulty installation is easy.

Note: If installation is done in hollow bricks, it should be noted that the front expansion zone part of the nail anchor fully catches at least one stone base.



Nail anchor N-S with cheese head

DG 2089

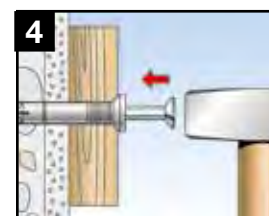
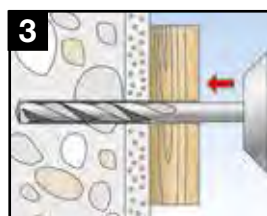
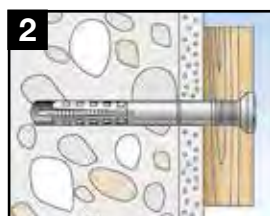
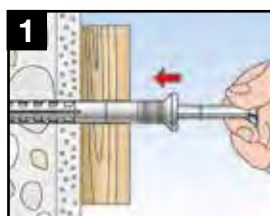
Item no.	Type	Hole Ø x dowel length	Clamping range	Anchoring depth	Price per 100 pieces	Package contents
624455	N 5 x 30 / 5 F	5 x 30 mm	5 mm	min. 25 mm	•	100
6244515	N 5 x 40 / 15 F	5 x 40 mm	15 mm	min. 25 mm	•	100
6244610	N 6 x 40 / 10 F	6 x 40 mm	10 mm	min. 30 mm	•	100
6244630	N 6 x 60 / 30 F	6 x 60 mm	30 mm	min. 30 mm	•	100
6244650	N 6 x 80 / 50 F	6 x 80 mm	50 mm	min. 30 mm	•	100



Nail anchor N-F with countersunk head

DG 2089

Item no.	Type	Hole Ø x dowel length	Clamping range	Anchoring depth	Price per 100 pieces	Package contents
6244820	N 8 x 60 / 20 S	8 x 60 mm	20 mm	min. 40 mm	•	100
6244860	N 8 x 100 / 60 S	8 x 100 mm	60 mm	min. 40 mm	•	100
6244880	N 8 x 120 / 80 S	8 x 120 mm	60 mm	min. 40 mm	•	100



Kombi nail/screw dowel Total Fixx

Application: Total Fixx nail/screw anchors are used to fasten light objects such as slats, laths, cable ducts, clips, profiles, substructures and much more in concrete, solid bricks, sand-lime bricks, aerated concrete, hollow bricks as well as plaster-board and chipboard screws. The nail anchors are simply driven in with a hammer or screwed in for perforated bricks and panel building materials.

Properties: Very variable, can be used as a nail anchor and as a screw anchor. With flat, surface-mounted collar and galvanized pan head nail-screws. Quick and simple push-through installation.

Advantages:

- unique combined nail/screw anchor that expands in solid building materials like a nail anchor and anchors positively in perforated brick or panel building materials like a knotted dowel



Plastic					DG 2087
Item no.	Type	Hole Ø x dowel length	Clamping range	Price per 100 pieces	Package contents
62445530	TF 5 / 30	5 x 35 mm	5 mm	•	200
62445640	TF 6 / 40	6 x 40 mm	5 mm	•	200



Allfa nail anchors with sealing washer

Application: Nail anchors with sealing washers are used to fasten metal sheets, signs, profiles, slats and much more outdoors. Such nail anchors are often used as an alternative to Spengler screws.

Properties: Complete with screws made of stainless steel with stainless steel washers or made of copper-plated stainless steel with copper washers. Washers with cured-on neoprene seals. The sealing washers reliably prevent the penetration of moisture.



Stainless steel A2					DG 2087
Item no.	Hole Ø x dowel length	Clamping range, max.	Washers Ø	Price per 100 pieces	Package contents
62858640	6 x 40 mm	15 mm	15 mm	•	200
62858660	6 x 60 mm	35 mm	15 mm	•	100

Clamp nail

Application: Quick anchor clamp nails are used to quickly fasten light objects to building materials with high strength such as concrete or solid bricks.

Properties: Quick anchor clamp nails are made of spring steel that presses against the borehole wall after being driven in.



Galvanized spring steel				DG 2085
Item no.	Hole Ø x nail length	Price per 100 pieces	Package contents	
62415890	8 x 90 mm	•	100	

FAKKT nylon dowels

Application: The FAKKT nylon dowels are used to fasten light objects in concrete, aerated concrete, masonry, sand-lime bricks or perforated bricks.

Properties: Made of nylon, weather resistant and halogen free. Has universal applications in conjunction with wood or chipboard screws. Anti-rotation lock.

Note: The required screw length results from dowel length + non-structural materials, such as plaster + thickness of the fixture + 1 x screws-Ø.

FAKKT


Nylon

DG 2119

Item no.	Dowel Ø x length	Drill Ø	for woodscrews or chipboard screws	Price per 100 pieces	Package contents
620825	5 x 25 mm	5 mm	2.5 - 4 mm	•	200
620826	6 x 30 mm	6 mm	3.5 - 5 mm	•	100
620828	8 x 40 mm	8 mm	4.5 - 6 mm	•	100
6208210	10 x 50 mm	10 mm	6 - 8 mm	•	50
6208212	12 x 60 mm	12 mm	8 - 10 mm	•	25
6208214	14 x 70 mm	14 mm	10 - 12 mm	•	20

FAKKT universal dowel without collar

Application: The FAKKT universal dowels make secure anchoring in almost all materials possible. Main application areas include applications in concrete, aerated concrete, solid and perforated brick, sand-lime bricks and plasterboard.

Properties: Made of PE polyethylene. 3x split dowel body with anti-rotation lock. FAKKT universal dowels expand in solid building materials or expand and become knotted in perforated and panel building materials. Dowel size 12 and 14 only suitable for hollow blocks.

Advantages:

- a dowel for almost all materials (not for approval-related installations)
- universal functional principle permits both expanding and knotting

Note: To achieve optimum knotting, the screw length must be selected as follows: Dowel length + any existing non-structural materials such as plaster + strength of the fixture + at least 1 x screw diameter.

The threadless part of the screw cannot be longer than the fixture.

FAKKT


DG 2119

Item no.	Dowel Ø x length	Drill Ø	for woodscrews or chipboard screws	Price per 100 pieces	Package contents
62401636	6 x 36 mm	6 mm	3.5 mm	•	100
62401850	8 x 50 mm	8 mm	5 - 6 mm	•	50
624011060	10 x 60 mm	10 mm	6 - 8 mm	•	50
624011272	12 x 72 mm	12 mm	8 - 10 mm	•	25
624011475	14 x 75 mm	14 mm	10 - 12 mm	•	20

FAKKT universal dowel with collar

FAKKT

Application: The FAKKT universal dowels make secure anchoring in almost all materials possible. Main application areas include applications in concrete, aerated concrete, solid and perforated brick, sand-lime bricks and plasterboard.

Properties: Made of PE polyethylene. 3x split dowel body with anti-rotation lock. The collar prevents slipping deeper. FAKKT universal dowels expand in solid building materials or expand and become knotted in perforated and panel building materials. Dowel size 12 and 14 only suitable for hollow blocks.

Advantages:

- a dowel for almost all materials (not for approval-related installations)
- universal functional principle permits both expanding and knotting

Note: To achieve optimum knotting, the screw length must be selected as follows: Dowel length + any existing non-structural materials such as plaster + strength of the fixture + at least 1 x screw diameter. The threadless part of the screw cannot be longer than the fixture.

DG 2119

Item no.	Dowel Ø x length	Drill Ø	for woodscrews or chipboard screws	Price per 100 pieces	Package contents
62402636	6 x 36 mm	6 mm	3.5 mm	•	100
62402851	8 x 50 mm	8 mm	5 - 6 mm	•	50
624021061	10 x 60 mm	10 mm	6 - 8 mm	•	50
624021271	12 x 72 mm	12 mm	8 - 10 mm	•	25
624021475	14 x 75 mm	14 mm	10 - 12 mm	•	20

Fischer universal dowels UX

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Application: The Fischer UX universal dowels make secure anchoring in almost all materials possible. Main application areas include applications in concrete, aerated concrete, solid and perforated brick, sand-lime bricks and plasterboard.

Properties: Made of nylon, weather resistant and halogen free. Has universal applications in conjunction with wood or chipboard screws. In the UX-R type, the edge prevents the dowel neck from slipping deeper. The Fischer UX universal dowels expand in solid building materials or expand and become knotted in perforated and panel building materials. With knock-in stop and anti-rotation lock. Optimum screw guidance through transverse connections.

Advantages:

- a dowel for almost all materials (not for approval-related installations)
- universal functional principle permits both expanding and knotting
- transverse connections for optimum screw guidance

without edge

Nylon

DG 2115

Item no.	Dowel Ø x length	Drill Ø	Wood screws or chipboard screws	Price per 100 pieces	Package contents
620876	6 x 35 mm	6 mm	4 - 5 mm	•	100
620878	8 x 50 mm	8 mm	4.5 - 6 mm	•	100
6208710	10 x 60 mm	10 mm	6 - 8 mm	•	50
6208712	12 x 70 mm	12 mm	8 - 10 mm	•	25
6208714	14 x 75 mm	14 mm	10 - 12 mm	•	20

with edge

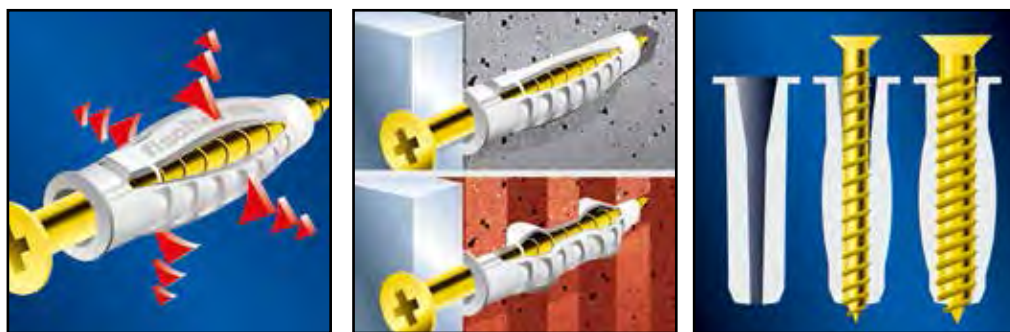
Nylon

DG 2115

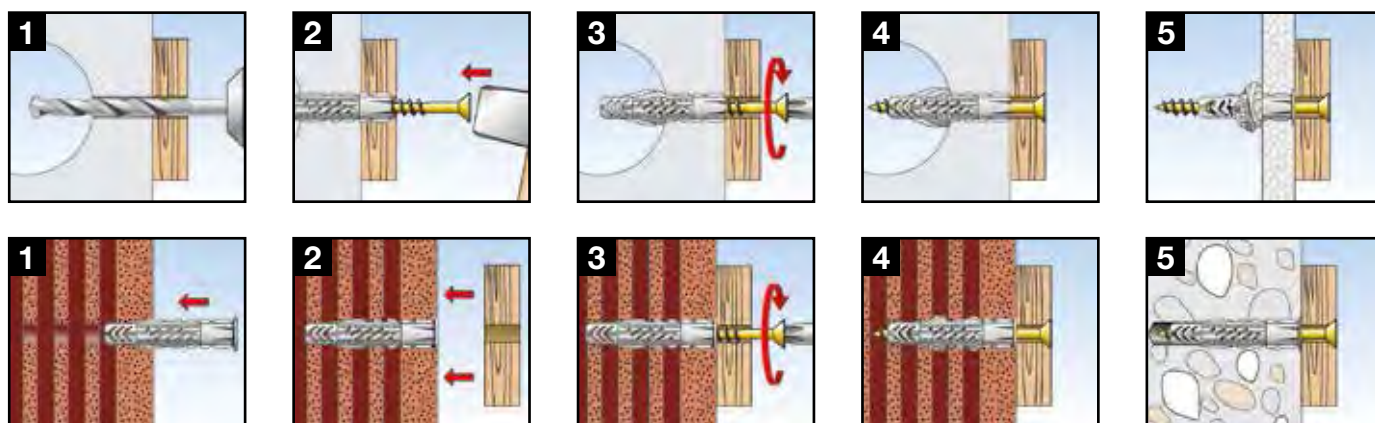
Item no.	Dowel Ø x length	Drill Ø	Woodscrews or chipboard screws	Price per 100 pieces	Package contents
620886	6 x 35 mm	6 mm	4 - 5 mm	•	100
620888	8 x 50 mm	8 mm	4.5 - 6 mm	•	100
6208810	10 x 60 mm	10 mm	6 - 8 mm	•	50

Continued on the next page

Continuation of Fischer universal dowels UX



Note: The required screw length results from dowel length + non-structural materials, such as plaster + thickness of the fixture + 1 x screw diameter.



Fischer nylon dowels SX

Application: The Fischer SX nylon dowels are used to fasten light objects in concrete, aerated concrete, masonry, sand-lime bricks, solid plasterboard or perforated bricks.

Properties: Made of nylon, weather resistant and halogen free. Has universal applications in conjunction with wood or chipboard screws. Powerful 4x expansion for the highest holding values. Distinct dowel edge prevents it from slipping deeper. Integrated knock-in stop makes push-through installation possible. Stable anti-rotation lock.

Advantages:

- powerful 4x expansion
- integrated knock-in stop
- dowel edge prevents it from slipping deeper

Note: The required screw length results from dowel length + non-structural materials, such as plaster + thickness of the fixture + 1 x screw diameter.

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Nylon

DG 2115

Item no.	Type	Dowel Ø x length	Drill Ø	for wood-screws or chipboard screws	Price per 100 pieces	Package
620845	SX 5	5 x 25 mm	5 mm	3 - 4 mm	•	100
620846	SX 6	6 x 30 mm	6 mm	4 - 5 mm	•	100
620848	SX 8	8 x 40 mm	8 mm	4,5 - 6 mm	•	100
6208410	SX 10	10 x 50 mm	10 mm	6 - 8 mm	•	50
6208412	SX 12	12 x 60 mm	12 mm	8 - 10 mm	•	25
6208414	SX 14	14 x 70 mm	14 mm	10 - 12 mm	•	20
6208416	SX 16	16 x 80 mm	16 mm	12 mm	•	10

Fischer nylon dowels S

Application: The Fischer nylon dowels are used to fasten light objects in concrete, aerated concrete, masonry, sand-lime bricks or perforated bricks.

Properties: Made of nylon, weather resistant and halogen free. Has universal applications in conjunction with wood or chipboard screws. Anti-rotation lock.

Note: The required screw length results from dowel length + non-structural materials, such as plaster + thickness of the fixture + 1 x screw diameter.

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DG 2115

Item no.	Type	Dowel Ø x length	Drill Ø	for wood-screws or chipboard screws	Price per 100 pieces	Package contents
620805	S 5	25 mm	5 mm	3 - 4 mm	•	200
620806	S 6	30 mm	6 mm	4 - 5 mm	•	200
620808	S 8	40 mm	8 mm	4.5 - 6 mm	•	200
6208010	S 10	50 mm	10 mm	6 - 8 mm	•	100
6208012	S 12	60 mm	12 mm	8 - 10 mm	•	25
6208014	S 14	75 mm	14 mm	10 - 12 mm	•	20
6208016	S 16	80 mm	16 mm	12 mm	•	10
6208020	S 20	90 mm	20 mm	16 mm	•	5

Fischer nylon dowels M-S

Application: The Fischer M-S nylon dowels are used to fasten light objects in concrete, natural stones, aerated concrete or masonry with metric screws or threaded rods for offset installation.

Properties: Made of nylon, weather-resistant and halogen-free, anti-rotation lock.

Advantage:

- suitable for metric screws and threaded rods

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DG 2112

Nylon		Type	Dowel Ø x length	Hole Ø	for screws	Price per 100 pieces	Package contents
Item no.							
620816		M 6 S	6 x 40 mm	12 mm	M 6 mm	•	100
620818		M 8 S	8 x 50 mm	10 mm	M 8 mm	•	50
6208110		M 10 S	10 x 70 mm	14 mm	M 10 mm	•	20
6208112		M 12 S	12 x 80 mm	16 mm	M 12 mm	•	10

TOX TRI all-purpose dowels

Application: The Tox TRI universal dowels make secure anchoring in almost all materials possible. Main application areas include applications in concrete, aerated concrete, solid and perforated brick, sand-lime bricks and plasterboard.

Properties: Made of PE polyethylene. 3-part dowel body with 2x anti-rotation lock on the dowel neck and on the dowel body. Tox TRI all-purpose dowels expand in solid building materials or expand and become knotted in perforated and panel building materials.

Advantages:

- a dowel for almost all materials (not for approval-related installations)
- universal functional principle permits both expanding and knotting

Note: To achieve optimum knotting, the screw length must be selected as follows: Dowel length + any existing non-structural materials such as plaster + strength of the fixture + at least 1 x screw diameter. The threadless part of the screw cannot be longer than the fixture.



DG 2114

Item no.	Dowel Ø x length	Drill Ø	for woodscrews or chipboard screws	Price per 100 pieces	Package contents
62085531	5 x 31 mm	5 mm	3 - 4 mm	•	100
62085636	6 x 36 mm	6 mm	4 - 5 mm	•	100
62085651	6 x 51 mm	6 mm	4 - 5 mm	•	100
62085851	8 x 51 mm	8 mm	5 - 6 mm	•	100
620851061	10 x 61 mm	10 mm	7 - 8 mm	•	50
620851271	12 x 71 mm	12 mm	8 - 10 mm	•	25
620851475	14 x 75 mm	14 mm	10 - 12 mm	•	20



TOX TRIKA all-purpose dowels

Application: The Tox TRIKA universal dowels make secure anchoring in almost all materials possible. Main application areas include applications in concrete, aerated concrete, solid and perforated brick, sand-lime bricks and plasterboard.

Properties: Made of PE polyethylene. 3-part dowel body with 2x anti-rotation lock on the dowel neck and on the dowel body. Cap prevents slipping deeper. Tox TRIKA all-purpose dowels expand in solid building materials or expand and become knotted in perforated and panel building materials.

Advantages:

- a dowel for almost all materials (not for approval-related installations)
- universal functional principle permits both expanding and knotting

Note: To achieve optimum knotting, the screw length must be selected as follows: Dowel length + any existing non-structural materials such as plaster + strength of the fixture + at least 1 x screw diameter. The threadless part of the screw cannot be longer than the fixture.



DG 2114

Item no.	Dowel Ø x length	Drill Ø	for woodscrews or chipboard screws	Price per 100 pieces	Package contents
62086532	5 x 31 mm	5 mm	3 - 4 mm	•	100
62086637	6 x 36 mm	6 mm	4 - 5 mm	•	100
62086852	8 x 51 mm	8 mm	5 - 6 mm	•	100
620861062	10 x 61 mm	10 mm	7 - 8 mm	•	50
620861272	12 x 71 mm	12 mm	8 - 10 mm	•	25
620861476	14 x 78 mm	14 mm	10 - 12 mm	•	20



Mungo perforated brick dowel

Application: The Mungo ML perforated brick dowels are used to fasten light objects in concrete, aerated concrete, perforated bricks, masonry, sand-lime bricks or plaster. Thanks to the long expanding zone they are particularly suited for materials with cavities or other building blocks with a porous structure.

Properties: The Mungo ML perforated brick dowels have special geometry that causes knotting when the screw is screwed in. Has universal applications in conjunction with wood or chipboard screws.

Advantages:

- long design spans strong fixings and strong building material supports
- knotted in the cavity



DG 2115

Nylon					
Item no.	Dowel Ø x length	Drill Ø	for screws Ø	Price per 100 pieces	Package contents
62406660	6 x 60 mm	6 mm	3.5 - 5 mm	•	100
62406880	8 x 80 mm	8 mm	5 - 6 mm	•	100
624061090	10 x 90 mm	10 mm	7 mm	•	100

Fischer aerated concrete dowel GB



Approved by the building authorities: Building Standards Approval, approval no. Z-21.2-123 for aerated concrete with galvanically zinc-plated steel screws and stainless steel A4. The size 14 is also approved for the roofing and ceiling panels that are created from load tension according to DIN 4223.

Application: The Fischer GB aerated concrete dowels are used to fasten light to medium-weight objects in aerated concrete. Main application areas include applications in interior design as well as wood or metal substructures.

Properties:

Material nylon, halogen-free. Helical external ribs cut positively into the aerated concrete. Favorable pressure distribution thanks to the large external ribs.

Small borehole that is only the core Ø of the dowel. No special tools required.

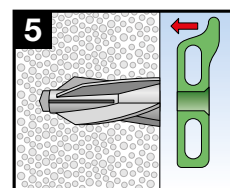
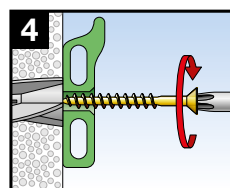
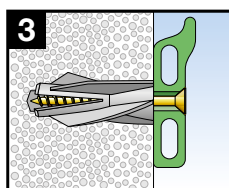
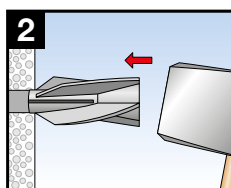
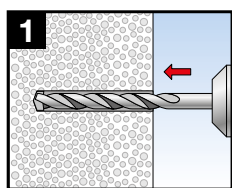
Note: The GB aerated concrete dowels are only permitted in conjunction with Fischer safety screws. The boreholes must be created using a rotary drill.



DG 2112

Plastic

Item no.	Type	Drill Ø in breeze block	Dowel length	for wood-screw	Price per 100 pieces	Package contents
622038	GB 8	8 mm	50 mm	5 mm	•	25
6220310	GB 10	10 mm	55 mm	7 mm	•	20
6220314	GB 14	14 mm	75 mm	10 mm	•	10



i Loads for GB aerated concrete dowel

Very high permissible loads¹⁾ of a single dowel in aerated concrete.

When using Fischer safety screws¹⁾, load values according to the selection table apply.

The entire Z-21.2-123 approval notice is to be observed during measurement.

Type		GB 8	GB 10	GB 14
Permissible load in the respective material $F_{perm}^{3)}$				
Aerated concrete PB2, PP2 (G2)	[kN]	0.20	0.25	0.40
Aerated concrete P3.3 (GB3.3)	[kN]	0.30	0.50	0.80
Aerated concrete \geq PB4, PP4, P4.4 (\geq G4, GB4.4)	[kN]	0.40	0.60	0.90
Tensile zone of aerated concrete roof and ceiling slabs according to DIN 4223 \geq P3.3 (GB3.3)	[kN]	-	-	0.30
Min. axial spacing ⁷⁾	s_{min} [mm]	150 (100) ⁸⁾	200 (150) ⁸⁾	300 (200) ⁸⁾
Min. edge spacing ²⁾	c_{min} [mm]	100	150	200
Edge spacing to mortared joints ⁶⁾	c_{min} [mm]	9	10	12
Minimum component thickness	h_{min} [mm]	75	100	200 ⁵⁾
Anchoring depth	h_{er} (h_v) [mm]	50	55	75

1) Necessary safety factor is taken into consideration.

2) Minimum edge spacing.

3) Valid for tensile load, transverse load and diagonal pull at any angle. For combinations of tensile and transverse loads as well as bending moments, see the approval notice.

4) gzp and A4.

5) The minimum component thickness for aerated concrete and ceiling slabs is 150 mm.

6) Only in aerated concrete masonry.

7) Minimum possible axial spacing with simultaneous reduction of the permissible load.

8) Values in the parentheses apply to PB2, PP2 (G2).

Fischer plasterboard dowel GK

Application: The Fischer GK plastic plasterboard dowels are used to fasten light objects to plasterboard with single or double paneling.

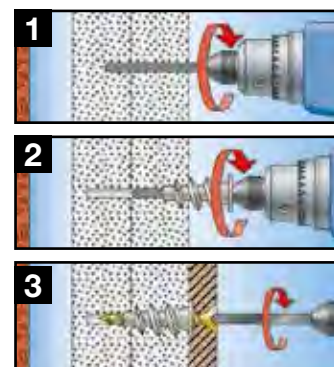
Properties: The self-cutting Fischer GK plastic plasterboard dowels cut positively into the plasterboard using the setting and insertion tools supplied by the manufacturer.

Installation instructions: The dowels are driven positively into the plaster board with the included setting tool. The insertion torque must be limited when using electric screwdrivers.

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Plastic				DG 2121	
Item no.	Dowel length	for screws	Price per 100 pieces	Package contents	
62217	22 mm	Wood and chipboard screws 4 - 5 mm, sheet metal screws 4.2 - 4.8 mm	•	100	



Mungo Jet Plug plasterboard dowel

Application: The Mungo Jet Plug metal plasterboard dowels are used to fasten light objects to plasterboard, plaster components or aerated concrete. Suitable for single and double paneling.

Properties: The self-drilling Mungo Jet Plug metal plasterboard dowels cut positively into the plasterboard. The reversing lock allows the screw to be removed without the dowel rotating as well.

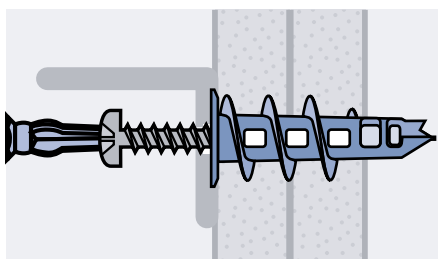
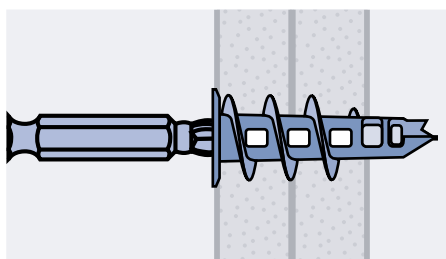
Installation instructions:

The tip of the dowel is pressed in by hand. It is then screwed into the material until it stops using a screwdriver or electric screwdriver. Pre-drill 8 mm holes when installing in solid plaster components or aerated concrete.

mungo



Galvanized steel				DG 2124	
Item no.	Dowel length	for screws	Screw-in depth max.	Price per 100 pieces	Package contents
622171	38 mm	Chipboard screws 4 - 4.5 mm, metric screws M 4	30 mm	•	100

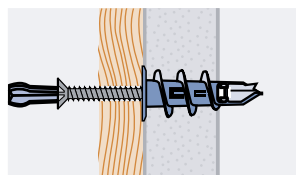
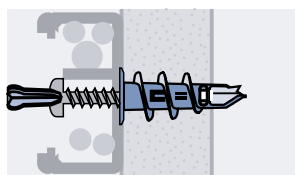


Mungo Fiber Jet plasterboard dowel

Application: The Fiber Jet plastic plasterboard dowels are used to fasten light objects to plasterboard with single paneling. The tip of the dowel is pressed into the plasterboard by hand. It is then driven into the plasterboard until it stops using a screwdriver or electric screwdriver.



Plastic				DG 2124
Item no.	Dowel length	for screws	Price per 100 pieces	Package contents
622172	29 mm	Wood and chipboard screws 4 - 4.5 mm	•	100



Fischer cavity dowel HM

Application: The Fischer HM cavity dowels are used to fasten light objects to plasterboard, wooden boards and hollow ceilings.

Properties: The Fischer HM cavity dowels are delivered complete with metric screws. High load bearing capacity due to extensive contact pressure of 5 supporting elements. Anti-rotation lock thanks to several distinctive claws. Repeated loosening and fastening of fixtures is possible. Wide range of panel thicknesses for each dowel diameter.

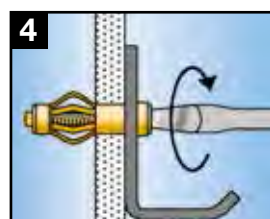
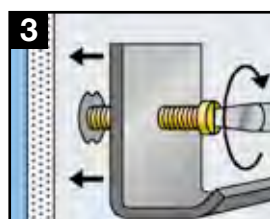
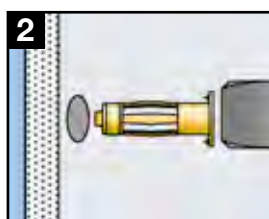
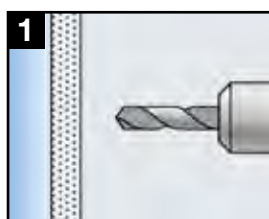
Installation instructions: Ideally, the dowels are installed with HM Z spreader for-cps. Installation is also possible with a screwdriver or battery-powered screwdriver. However, it is absolutely necessary to use an installation object or special equipment at least 6 mm thick as an anti-rotation device.

Advantages:

- large contact radius free of expansion increase load-bearing capacity and safety
- light loosening and refastening of fixtures



galvanized							DG 2126
Item no.	Type	Thread Ø	Dowel length	Drill Ø	Slab thickness	Price per 100 pieces	Package contents
62114412	HM 4/32 S	M 4	32 mm	8 mm	3 - 13 mm	•	50
62114420	HM 4/46 S	M 4	46 mm	8 mm	5 - 18 mm	•	50
62114516	HM 5/37 S	M 5	37 mm	12 mm	6 - 15 mm	•	50
62114521	HM 5/52 S	M 5	52 mm	12 mm	7 - 21 mm	•	50
62114524	HM 5/65 S	M 5	65 mm	12 mm	20 - 34 mm	•	50
62114616	HM 6/37 S	M 6	37 mm	13 mm	6 - 15 mm	•	50
62114621	HM 6/52 S	M 6	52 mm	13 mm	10 - 21 mm	•	50
62114634	HM 6/65 S	M 6	65 mm	13 mm	20 - 34 mm	•	50
62114646	HM 6/80 S	M 6	80 mm	13 mm	38 - 50 mm	•	50
62114821	HM 8/55 S	M 8	55 mm	13 mm	10 - 21 mm	•	50



Fischer quick assembly pliers

Application: For quickly fastening the Fischer HM cavity dowels.

Note: The standard HM Z 2 pliers are not suitable for the HM 8 x 55 SS dowel type.



DG 2122

Item no.	Type	Price per piece	Package contents
621151	HM Z 1 (pro)	•	1
621152	HM Z 2 (standard)	•	1



Toggle dowels

Application: Toggle dowels are used to fasten light objects to hollow walls, hollow ceilings, suspended ceilings and sandwich elements. The dimensions M 8 and M 10 are mainly used to fasten pipes up to DN 50, assembly rails, ventilation ducts or retainer bars to sheet metal roofs or fastening sinks or urinals.

Properties: Rigid toggle beam. Extensive pressure distribution. Bolt-through swivel, therefore easily adjustable. Long threaded rods for spanning strong fixtures.

Note: Rigid, one-piece toggle beams require a relatively large cavity. Note required cavity depth.

with screw-through threaded shaft

DG 2128

Item no.	Thread Ø x overall length	Bore-hole Ø in the board	required void depth	Price per 100 pieces	Package contents
621234100	M 4 x 90 mm	14 mm	70 mm	•	50
621235100	M 5 x 100 mm	15 mm	70 mm	•	100
621236100	M 6 x 100 mm	17 mm	70 mm	•	100
621238100	M 8 x 100 mm	20 mm	75 mm	•	100
6212310180	M 10 x 180 mm	30 mm	140 mm	•	25

with screw-through threaded shaft

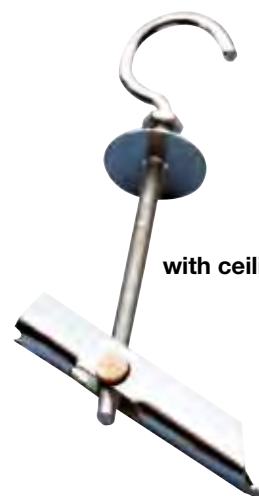


with ceiling hook

DG 2128

Item no.	Thread Ø x overall length	Bore-hole Ø in the board	required void depth	Price per 100 pieces	Package contents
62123590	M 5 x 100 mm	15 mm	70 mm	•	100
62123690	M 6 x 100 mm	17 mm	70 mm	•	100

with ceiling hook



Spring flap toggle dowel

Type: Spring toggles are used to fasten light objects to hollow walls, hollow ceilings, suspended ceilings and sandwich elements.

Properties: Split toggle beam for low cavity depths. Extensive pressure distribution. Bolt-through swivel, therefore easily adjustable. Long threaded rods for spanning strong fixtures.

Advantages:

- also suitable for low cavities thanks to the two-part crossbeam

with threaded rod

DG 2128

Item no.	Thread Ø x overall length	Bore-hole Ø in the board	required cavity depth	Price per 100 pieces	Package contents
621244100	M 4 x 100 mm	14 mm	35 mm	•	50
621245100	M 5 x 100 mm	16 mm	46 mm	•	25
621246100	M 6 x 100 mm	16 mm	46 mm	•	25

with ceiling hook

DG 2128

Item no.	Thread Ø x overall length	Bore-hole Ø in the board	required cavity depth	Price per 100 pieces	Package contents
621255100	M 5 x 100 mm	16 mm	46 mm	•	25



Fischer insulation dowels FID

Application: The Fischer FID insulation dowels are used to directly anchor light objects in styrofoam, polystyrene, thermal insulation composite systems. Main application areas include light lamps, mailboxes, motion detectors or signs on insulated facades.

Properties: The Fischer FID insulation dowel is made of impact-resistant solid plastic. The large spiral thread cuts positively into the insulation. Simple installation without special tools.

Advantage:

- no pre-drilling through thin plaster layers necessary.

Note: To prevent water from penetrating the insulation, the edge of the dowel should be sealed with solvent-free construction silicone, e.g. our Pro N, after pre-positioned installation.



Plastic

DG 2103

Item no.	Type	Dowel length	Chipboard screws Ø	Screw-in depth of screws in the dowels	Price per 100 pieces	Package contents
6265650	FID 50	50 mm	4.5 - 5 mm	30 mm	•	25

Insulation holder one-part IPM

Application: The IPM insulation holders are used to fasten soft mineral fiber mats in walls on concrete, natural stone, solid bricks and solid sand-lime bricks.

Properties: Made of plastic, one-piece. Simple installation - just insert into the borehole using a hammer. Large supporting disk of 90 mm. With head hole bore for holding a fabric mesh container. Temperature resistance of -40 °C for +70 °C.



Plastic

DG 2107

Item no.	Type	Drill Ø	Length	Min. depth of drilled holes	Insulation thickness	Price per 100 pieces	Package contents
621296080	IPM 8/100	8 mm	100 mm	25 mm	70 - 80 mm	•	250
6212980100	IPM 8/120	8 mm	120 mm	25 mm	90 - 100 mm	•	250

Insulation holder two-part KP

Application: The KP insulation holders are used to fasten hard-foam boards in walls on concrete, natural stone, solid bricks and solid sand-lime bricks.

Properties: Made of plastic, two-part. Simple installation - just insert into the bore-hole using a hammer. Additional plastic nail penetrates the entire dowel and optimally expands it. Supporting disk 50 mm. Temperature resistance of -40 °C for +70 °C.



DG 2107

Plastic							
Item no.	Type	Drill Ø	Length	Min. depth of drilled holes	Insulation thickness	Price per 100 pieces	Package contents
621275060	KP 10/90	10 mm	90 mm	40 mm	50 - 60 mm	•	250
621277080	KP 10/110	10 mm	110 mm	40 mm	70 - 80 mm	•	250
6212790100	KP 10/130	10 mm	130 mm	40 mm	90 - 100 mm	•	250
62127110120	KP 10/150	10 mm	150 mm	40 mm	110 - 120 mm	•	250
62127130140	KP 10/180	10 mm	180 mm	40 mm	130 - 140 mm	•	250

Fischer scaffolding dowel ROE

Application: The Fischer ROE dowels are used to anchor scaffolding in concrete, natural stone, solid brick or solid sand-lime brick.

Properties: Made of nylon, weather resistant and halogen free. Anti-rotation lock.



DG 2104

Plastic						DG 2104
Item no.	Type	Drill Ø	Dowel length	Min. depth of drilled holes	Price per 100 pieces	Package contents
6221570	S 14 ROE 70	14 mm	70 mm	80 mm	•	25
62215100	S 14 ROE 100	14 mm	100 mm	110 mm	•	25
62215135	S 14 ROE 135	14 mm	135 mm	145 mm	•	25

Scaffolding screw - lifting eye bolt

Application: For directly screwing into wood or, in conjunction with plastic dowels, for attachments in concrete, natural stone or masonry. Main application areas include suspensions, anchor poles or fastening facade scaffolding (12 mm), e.g. with Fischer ROE dowels.

Properties: Welded eyelet.



DG 2104

galvanized				
Item no.	Shaft Ø x length	Eye width	Price per 100 pieces	Package contents
62214100	8 x 100 mm	22 mm	•	20
62214120	12 x 120 mm	22 mm	•	100
62214160	12 x 160 mm	22 mm	•	100
62214190	12 x 190 mm	22 mm	•	100
62214230	12 x 230 mm	22 mm	•	100

Sealing cap for scaffolding dowels

Application: These caps are used to seal the ROE scaffolding dowels after removing the scaffolding eyelets.



DG 2185

Plastic					
Item no.	Size	for dowels with metric thread	for plastic dowel	Price per 100 pieces	Package contents
6222712	12 x 30 mm	M 12	14 mm	•	100

Assortment of adjustment blocks MIX 155

Application: Adjustment blocks are used to orient, balance and support building components. Main application areas include orienting building components in pre-fabricated construction, rafters in the construction of roof trusses, substructures in facade construction or in ceiling and wall paneling. The proper installation according to RAL of doors and windows as well as the compensation for unevenness in the entire roof area and when installing solar panels.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic. Very capable of withstanding high pressure up to max. 4 t.

Scope of supply:

- 30 x red 80 x 50 x 2 mm
- 30 x green 80 x 50 x 3 mm
- 30 x blue 80 x 50 x 5 mm
- 20 x black 80 x 50 x 7 mm
- 20 x gray 80 x 50 x 10 mm
- 20 x yellow 80 x 50 x 15 mm
- 5 x black 80 x 50 x 20 mm

Note: These adjustment blocks are also offered individually.



DG 2180

Item no.	Contents	Price per piece	Package contents
628301	155 Parts	•	1



Assortment of assembly wedges MIX 240

Application: Assembly wedges are used to orient, balance and support building components. Main application areas include: Orienting building components in pre-fabricated construction, rafters in the construction of roof trusses as well as substructures in facade construction or in ceiling and wall paneling. The installation of doors and windows. Compensation for unevenness in the entire roof area and when installing solar panels.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic.

Scope of supply:

- 80 x red 65 x 28 x 8 mm
- 60 x yellow 70 x 35 x 10 mm
- 50 x white 80 x 40 x 10 mm
- 40 x gray 90 x 43 x 15 mm
- 10 x black 140 x 43 x 25 mm

Note: These assembly wedges are also offered individually.



DG 2180

Item no.	Contents	Price per piece	Package contents
628302	240 Parts	•	1

Assortment of Quickfix distance assembly blocks MIX 250

Application: Quickfix spacing blocks are used to orient, balance and support building components. Main application areas include orienting building components in pre-fabricated construction, rafters in the construction of roof trusses as well as substructures in facade construction or in ceiling and wall paneling.

The installation of doors and windows. Compensation for unevenness in the entire roof area and when installing solar panels.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic. Thanks to the lower large opening also suitable for pre-screwed, fixed laths and rails.

Scope of supply:

45 x blue 80 x 50 x 1 mm

45 x white 80 x 50 x 2 mm

45 x red 80 x 50 x 3 mm

45 x black 80 x 50 x 4 mm

45 x green 80 x 50 x 5 mm

25 x yellow 80 x 50 x 10 mm

Note: These Quickfix spacing blocks are also offered individually.



DG 2180

Item no.	Contents	Price per piece	Package contents
628305	250 Parts	•	1

Assortment of supporting glazier blocks MIX 350

Application: Supporting glazier blocks are used for proper installation according to ÖNORM and RAL for window and door installation.

Properties: High-impact plastic, slip-resistant and temperature-resistant.

Also suitable as glazier block for 3-panel (insulated glass) panes.

Scope of supply:

50 x white 100 x 30 x 1 mm

50 x blue 100 x 30 x 2 mm

50 x red 100 x 30 x 3 mm

50 x yellow 100 x 30 x 4 mm

50 x green 100 x 30 x 5 mm

50 x black 100 x 30 x 6 mm

50 x gray 100 x 30 x 8 mm



DG 2180

Item no.	Contents	Price per piece	Package contents
628304	350 Parts	•	1

Assortment of glazier blocks MIX 500

Application: Glazier blocks are used to block rails of all types, up to 24 mm insulated glass. For proper installation of glass panes.

Properties: High-impact plastic, slip-resistant and temperature-resistant. The glazier blocks ensure that the glass edges do not come into contact with the frame.

Scope of supply:

100 x white 100 x 24 x 1 mm

100 x blue 100 x 24 x 2 mm

100 x red 100 x 24 x 3 mm

100 x yellow 100 x 24 x 4 mm

100 x green 100 x 24 x 5 mm

Note: These glazier blocks are also offered individually.



DG 2180

Item no.	Contents	Price per piece	Package contents
628303	500 Parts	•	1

Adjustment blocks

Application: Adjustment blocks are used to orient, balance and support building components. Main application areas include orienting building components in pre-fabricated construction, rafters in the construction of roof trusses, substructures in facade construction or in ceiling and wall paneling. The proper installation according to RAL of doors and windows as well as the compensation for unevenness in the entire roof area and when installing solar panels.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic. Very capable of withstanding high pressure up to max. 4 t.

Note: These adjustment blocks are also offered as a set (assortment MIX 155).

DG 2180

Item no.	Dimension	Color	Price per 100 pieces	Package contents
6283380502	80 x 50 x 2 mm	red	•	500
6283380503	80 x 50 x 3 mm	green	•	500
6283380505	80 x 50 x 5 mm	blue	•	500
6283380507	80 x 50 x 7 mm	black	•	500
62833805010	80 x 50 x 10 mm	gray	•	500
62833805015	80 x 50 x 15 mm	yellow	•	250
62833805020	80 x 50 x 20 mm	black	•	250

Other dimensions can be delivered at short notice.



Assembly wedges

Application: Assembly wedges are used to orient, balance and support building components. Main application areas include orienting building components in pre-fabricated construction, rafters in the construction of roof trusses as well as substructures in facade construction or in ceiling and wall paneling. The installation of doors and windows. Compensation for unevenness in the entire roof area and when installing solar panels.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic.

Note: These assembly blocks are also offered as a set (assortment MIX 240).

DG 2180

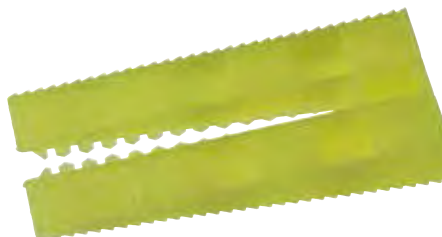
without opening				
Item no.	Dimension	Color	Price per 100 pieces	Package contents
6283165	65 x 28 x 8 mm	red	•	1,000
6283190	90 x 43 x 15 mm	gray	•	924
62831140	140 x 43 x 25 mm	black	•	364

with opening

DG 2180

Item no.	Dimension	Color	Price per 100 pieces	Package contents
6283270	70 x 35 x 10 mm	yellow	•	1,000
6283277	77 x 38 x 10 mm	white	•	1,000

Other dimensions can be delivered at short notice.



Quickfix distance assembly blocks

Application: Quickfix spacing blocks are used to orient, balance and support building components. Main application areas include orienting building components in pre-fabricated construction, rafters in the construction of roof trusses as well as sub-structures in facade construction or in ceiling and wall paneling. The installation of doors and windows. Compensation for unevenness in the entire roof area and when installing solar panels.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic. Also suitable for pre-screwed, fixed laths and rails, thanks to the lower large opening.

Note: These Quickfix spacing blocks are also offered as a set (assortment MIX 250). DG 2180



Item no.	Dimension	Color	Price per 100 pieces	Package contents
6283480501	80 x 50 x 1 mm	blue	•	1,000
6283480502	80 x 50 x 2 mm	white	•	1,000
6283480503	80 x 50 x 3 mm	red	•	1,000
6283480504	80 x 50 x 4 mm	black	•	1,000
6283480505	80 x 50 x 5 mm	green	•	1,000
62834805010	80 x 50 x 10 mm	yellow	•	500

Glazier blocks

Application: Glazier blocks are used to block rails of all types, up to 24 mm insulated glass. For proper installation of glass panes.

Properties: High-impact plastic, slip-resistant and temperature-resistant. The glazier blocks ensure that the glass edges do not come into contact with the frame.

Note: These glazier blocks are also offered as a set (assortment MIX 500). DG 2180



Item no.	Dimension	Color	Price per 100 pieces	Package contents
62847100221	100 x 22 x 1 mm	white	•	1,000
62847100222	100 x 22 x 2 mm	blue	•	1,000
62847100223	100 x 22 x 3 mm	red	•	1,000
62847100224	100 x 22 x 4 mm	yellow	•	1,000
62847100225	100 x 22 x 5 mm	green	•	1,000
62847100226	100 x 22 x 6 mm	black	•	1,000
62847100241	100 x 24 x 1 mm	white	•	1,000
62847100242	100 x 24 x 2 mm	blue	•	1,000
62847100243	100 x 24 x 3 mm	red	•	1,000
62847100244	100 x 24 x 4 mm	yellow	•	1,000
62847100245	100 x 24 x 5 mm	green	•	1,000
62847100246	100 x 24 x 6 mm	black	•	1,000

Other dimensions can be delivered at short notice.

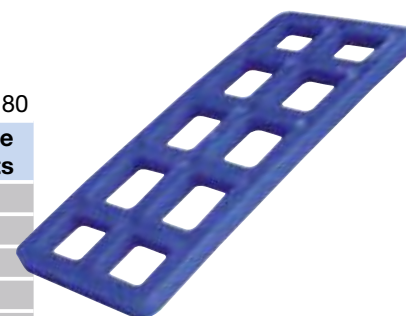
Base plates for wooden construction

Application: Base plates are used to orient, compensate for and support building components in wooden and metal construction. Main application areas include orienting rafters and other supporting wooden components as well as compensating for unevenness everywhere on a roof.

Properties: For universal use, time-saving. High-impact, slip-resistant, temperature-resistant plastic. Very capable of withstanding high pressure up to max. 6 t.

DG 2180

Item no.	Dimension	Color	Price per 100 pieces	Package contents
62835120502	120 x 50 x 2 mm	red	•	250
62835120503	120 x 50 x 3 mm	green	•	250
62835120505	120 x 50 x 5 mm	blue	•	250
628351205010	120 x 50 x 10 mm	white	•	100
628351205015	120 x 50 x 15 mm	yellow	•	100
62835160502	160 x 50 x 2 mm	red	•	250
62835160503	160 x 50 x 3 mm	green	•	250
62835160505	160 x 50 x 5 mm	blue	•	250
628351605010	160 x 50 x 10 mm	white	•	250



Pipe clamp OPZD without knock-in dowel

Application: The OPZD pipe clamps are used to fasten armored steel tubes DIN 49020 and heavy insulation tubes DIN 49016.

Properties: Material - PP polypropylene (except for 621639 = PA nylon). Halogen and silicone free, color gray RAL 7035. With a 6 mm elongated hole for easy installation correction. Can be inserted into profile rails with 11 mm slot width and can be stacked on most pipe clamps.



DG 2197

Item no.	Type	for cables	for pipes	Price per 100 pieces	Package contents
621639	IEC16	IEC16, PG9, IRO13.5	15 - 16 mm / 5/8"	•	100
62163135	IEC20	IEC20, PG13.5, IRO19	20 - 21 mm	•	100
6216523	IEC25	IEC25, IRO23	25 - 26 mm / 1"	•	50
6216529	IEC32	IEC32, IRO29	31 - 32 mm / 1 1/4"	•	50
6216536	IEC40	IEC40, IRO36	38 - 40 mm	•	30
6216336	IEC50	IEC50	50 mm	•	30

Pipe clamp TF with combi dowel Total Fixx

Application: The TF pipe clamps are used to fasten electrical installation pipes.

Properties: Material of clip: PP polypropylene, halogen and silicone free, color gray RAL 7035. Material of dowel: Polyamide PA 6. With a 6 mm elongated hole for easy installation correction. Can be stacked on most customary pipe clamps. With pre-installed combi dowel Total Fixx.

Advantages:

- the TF pipe clamps are completely pre-installed with the unique Total Fixx combination dowels, which expand in solid building materials like normal nail anchors and anchor positively in perforated bricks or panel materials like knotted dowels
- great time savings compared to pipe clamps with external dowels and screws



DG 2197

Item no.	Type	for cables	for pipes	Hole Ø	Price per 100 pieces	Package contents
621979	TF-IEC16	IEC16, PG9, IRO13.5	15 - 16 mm / 5/8"	6 mm	•	100
62197135	TF-IEC20	IE120, PG13, 5, IRO19	20 - 21 mm	6 mm	•	100
6219716	TF-PG16	IRO16	22 - 23 mm	6 mm	•	100
6219725	TF-IEC25	IEC25, IRO23	25 - 26 mm / 1"	6 mm	•	100

Speedclip pipe clamp SCP with knock-in dowel

Application: The SCP speedclip pipe clips are used to fasten copper tubes and DIN 49020 armored steel tubes and DIN 49016 heavy insulation tubes.

Properties: Material: Polyamide PA-6 halogen and silicone-free, color gray RAL 7035. KIWA certified, UV resistant, temperature range -40 °C to +80 °C, short-term +130 °C, fireproof according to UL94HB. With elongated hole for easy installation correction.

Advantages:

- up to 50% time savings with pre-installed knock-in dowels compared to conventional pipe clamps with external plastic dowels and screws



DG 2197

Knock-in dowel 6 x 40

Item no.	Hole Ø	for cables	for cables/pipes	Price per 100 pieces	Package contents
6218718	6 mm	PG 11	18 - 19	•	100
6218722	6 mm	PG 13.5-16 - M 20	20 - 22	•	100
6218728	6 mm	PG 21 - M 25	25 - 28	•	100

Knock-in dowel 6 x 50

DG 2197

Item no.	Hole Ø	for cables	for cables/pipes	Price per 100 pieces	Package contents
6218735	6 mm	PG 29 - M 32	32 - 38	•	50
6218742	6 mm	PG 36 - M 40	40 - 47	•	50
6218754	6 mm	PG 42 - M 50	48 - 54	•	25

Speedclip pipe clamp SCP without knock-in dowel

Application: The SCP speedclip pipe clips are used to fasten copper tubes and DIN 49020 armored steel tubes and DIN 49016 heavy insulation tubes.

Properties: Material: Polyamide PA-6 halogen and silicone-free, color gray RAL 7035. KIWA certified, UV resistant, temperature range -40 °C to +80 °C, short-term +130 °C, fireproof according to UL94HB. With elongated hole for easy installation correction.



DG 2197

Item no.	Type	for cables/pipes	Price per 100 pieces	Package contents
6219122	SCP 22	20 - 22 mm	•	100
6219128	SCP 28	PG 25 - 28 mm	•	50

Speedclip clamping brackets KKB

Application: The KKB speedclip clamping brackets are used to easily lay up to 16 3 x 1.5 mm cables per clamping bracket on concrete walls or ceilings by means of impact installation.

Properties: Material: Polyamide PA-6, halogen and silicone free, color gray RAL 7035. UV resistant, temperature range -40 °C to +80 °C, short-term +130 °C. Fireproof (design F) according to VDE 0471 / DIN IEC 695 test temperature +695 °C. (F design) great deal of security, thanks to impact- and shatter-proof nylon. Pre-installed nail anchors make "one-hand installation" possible. Easy to open, thanks to large, ripped lips.

Advantage:

- can easily replace cable ducts



DG 2197

Item no.	Type	Knock-in dowel	Flame resistance	Capacity, cable 3.0 x 1.5	Price per 100 pieces	Package contents
621628	KKB 8	-	no	8	•	100
6216216	KKB 16	-	no	16	•	50
621628655	KKB 8/6x55	6 x 55	no	8	•	200
6216216655	KKB 16/6x55	6 x 55	no	16	•	100
621728655	KKB 8F/6x55	6 x 55	yes	8	•	200
6217216655	KKB 16F/6x55	6 x 55	yes	16	•	100

Speedclip multi-use clip KKS

Application: The KKS speedclip multi-use clips are used to easily lay up to 30 3 x 1.5 mm cables per multi-use clip on concrete walls or ceilings by means of impact installation.

Properties: Material: PP polypropylene, gray RAL 7035. Design F polyamide PA-6, halogen and silicone free. Color: gray RAL 7030. Temperature range -40 °C to +80 °C, short-term +130 °C. Fireproof (design F) according to VDE 0471 / DIN IEC 695 test temperature +695 °C (design F). Easy accessibility without tools. Smooth closing mechanism. Pre-installed nail anchors make "one-hand installation" possible. Base part for wall and ceiling installation.

Advantage:

- can easily replace cable ducts



DG 2197

Item no.	Type	Material	Knock-in dowel	Flame resistance	Capacity, cable 3.0 x 1.5	Price per 100 pieces	Package contents
6217415	KKS 15	Copolymer	-	-	15	•	100
6217430	KKS 30	Copolymer	-	-	30	•	50
6216115	KKS 15/6x55	Copolymer	6 x 55	-	15	•	100
6216130	KKS 30/6x55	Copolymer	6 x 55	-	30	•	50
6217315	KKS 15/6x55	Copolymer	6 x 55	yes	15	•	100
6217330	KKS 30/6x55	Copolymer	6 x 55	yes	30	•	50

Nail clamps

Application: Nail clamps are used to easily lay cables.

Properties: Material: Polyethylene, color: gray RAL 7035. Temperature resistance -30 °C to +67 °C. Complete with galvanized, hardened steel nails.



Clamping range 4 - 7 mm

DG 2197

Item no.	Nail length	Price per 100 pieces	Package contents
62166147	25 mm	•	100

Clamping range 7 - 11 mm

DG 2197

Item no.	Nail length	Price per 100 pieces	Package contents
621660711	25 mm	•	100
621662711	35 mm	•	100

Snap-on loops STS

Application: The STS snap-on loops are used to easily lay individual cables or bundles of cables to concrete, sand-lime brick and aerated concrete. For power cables of 3 - 40 mm.

Properties: Material: Polyamide PA-6, halogen and silicone free, UV resistant, gray. Temperature range -40 °C to +80 °C, short-term +130 °C. Fireproof according to UL 94 HB. Quick and easy fastening - just insert bores and loops. Borehole depth 35 mm - 65 mm depending on cable diameter and quantity.



DG 2197

Item no.	Type	Hole Ø	Capacity	Price per 100 pieces	Package contents
62184313	STS 3-13	6 mm	3 - 13 mm	•	200
621841328	STS 13-28	6 mm	13 - 28 mm	•	100
621842840	STS 28-40	6 mm	28 - 40 mm	•	50

Plug-in hook STD

Application: The STD double plug-in hooks are used to fasten one or two cables with 4 - 12 mm diameters.

Properties: Material: Polyamide PA-6, halogen and silicone free, color gray RAL 7035. Temperature range -40 °C to +80 °C, short-term +130 °C. UV resistant. Fireproof according to UL 94 HB. Quick and easy fastening - just insert bores and hooks.



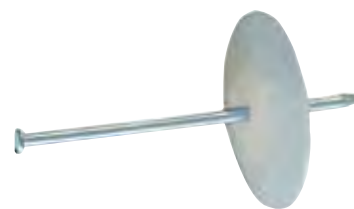
DG 2197

Item no.	Type	Hole Ø	for cables	Price per 100 pieces	Package contents
62195412	STD 4-12	6 mm	4 - 12 mm	•	200

Clamping disks KLS

Application: The KLS clamping disks are used to fasten multiple cables in one work step. Primarily in wall grooves before plastering and under insulation material.

Properties: Material: Polypropylene, natural color. Complete with pre-installed, galvanized, hardened steel nails.



DG 2197

Washers Ø 34 mm			
Item no.	Nail Ø x length	Price per 100 pieces	Package contents
62193343340	3.3 x 40 mm	•	150
62193343350	3.3 x 50 mm	•	150
62193343360	3.3 x 60 mm	•	100

Cable ties, nylon 6.6 natural

Application: Cable ties are primarily used to fasten and fix individual cables and entire cable strands, but also to permanently or temporarily fasten many objects used in the skilled crafts and industry.

Properties: Material: Nylon PA 6.6 natural color, halogen free, silicone free. Temperature range -40 °C to +85 °C. Flammability according to UL94 V-2, UL approval. Elastic retaining teeth ensure a secure hold in the cable tie head and cannot be opened without being destroyed. Rounded edges prevent damage to the cables.



DG 8331

Item no.	Dimension	max. bundle Ø	min. load-bearing capacity	Price per 100 pieces	Package contents
8316122100	100 x 2.5 mm	21 mm	8 kg	•	100
8316122140	140 x 2.5 mm	34 mm	8 kg	•	100
8316122200	202 x 2.5 mm	55 mm	8 kg	•	100
8316123150	150 x 3.3 mm	38 mm	18 kg	•	100
8316123210	201 x 3.3 mm	54 mm	18 kg	•	100
8316123250	255 x 3.7 mm	70 mm	18 kg	•	100
8316123300	290 x 3.3 mm	82 mm	18 kg	•	100
8316124160	157 x 4.8 mm	40 mm	22 kg	•	100
8316124200	199 x 4.5 mm	54 mm	22 kg	•	100
8316124280	288 x 4.5 mm	84 mm	22 kg	•	100
8316124370	371 x 4.5 mm	106 mm	22 kg	•	100
8316124430	430 x 4.5 mm	125 mm	22 kg	•	100
8316127200	200 x 7.6 mm	54 mm	54 kg	•	100
8316127380	370 x 7.2 mm	106 mm	54 kg	•	100
8316128450	450 x 7.2 mm	130 mm	54 kg	•	100
8316128550	541 x 7.2 mm	160 mm	54 kg	•	100
8316129760	774 x 8.8 mm	220 mm	79 kg	•	100
8316120730	724 x 12.5 mm	216 mm	114 kg	•	100

Cable tie, nylon 6.6, black

Application: Cable ties are primarily used to fasten and fix individual cables and entire cable strands, but also to permanently or temporarily fasten many objects used in the skilled crafts and industry.

Properties: Material: Nylon PA 6.6 black color, halogen free, silicone free and UV resistant. Temperature range -40 °C to +85 °C. Flammability according to UL94 V-2, UL approval. Elastic retaining teeth ensure a secure hold in the cable tie head and cannot be opened without being destroyed. Rounded edges prevent damage to the cables.



DG 8331

Item no.	Dimension	max. bundle Ø	min. load-bearing capacity	Price per 100 pieces	Package contents
8316132100	100 x 2.5 mm	21 mm	8 kg	•	100
8316132140	140 x 2.5 mm	34 mm	8 kg	•	100
8316132200	202 x 2.5 mm	55 mm	8 kg	•	100
8316133150	150 x 3.3 mm	38 mm	18 kg	•	100
8316133210	201 x 3.3 mm	54 mm	18 kg	•	100
8316133250	255 x 3.7 mm	70 mm	18 kg	•	100
8316133300	290 x 3.3 mm	82 mm	18 kg	•	100
8316134160	157 x 4.8 mm	40 mm	22 kg	•	100
8316134200	199 x 4.5 mm	54 mm	22 kg	•	100
8316134280	288 x 4.5 mm	84 mm	22 kg	•	100
8316134370	371 x 4.5 mm	106 mm	22 kg	•	100
8316134430	430 x 4.5 mm	125 mm	22 kg	•	100
8316137200	200 x 7.6 mm	54 mm	54 kg	•	100
8316137380	370 x 7.2 mm	106 mm	54 kg	•	100
8316138450	450 x 7.2 mm	130 mm	54 kg	•	100
8316138550	541 x 7.2 mm	160 mm	54 kg	•	100
8316139760	774 x 8.8 mm	220 mm	79 kg	•	100
8316130730	724 x 12.5 mm	216 mm	114 kg	•	100

Cable ties with metal tongue 6.6 natural

Approvals: UL, Germanischer Lloyd, Lloyd's Register of Shipping, Bureau Veritas and MIL.

Application: Cable ties are primarily used to fasten and fix individual cables and entire cable strands, but also to permanently or temporarily fasten many objects used in the skilled crafts and industry.

Properties: Material: nylon PA 6.6, natural color, halogen free, silicone free.

Temperature resistance: -40 °C to +85 °C. Flammability class UL 94 V-2.

The corrosion-resistant, anti-magnetic steel tongue in the cable tie head guarantees a very strong and secure hold, even in adverse conditions such as high air humidity, heat or cold.

Advantages:

- the steel tongue guarantees a stronger and more secure hold
- numerous approvals

Thomas&Betts



DG 8331

Item no.	Dimension	max. bundle Ø	min. load-bearing capacity	Price per 100 pieces	Package contents
831622290	92 x 2.4 mm	16 mm	8 kg	•	1,000
8316222200	203 x 2.4 mm	50 mm	8 kg	•	1,000
8316223140	140 x 3.6 mm	29 mm	18 kg	•	1,000
8316224190	186 x 4.8 mm	45 mm	22 kg	•	1,000
8316224360	361 x 4.8 mm	102 mm	22 kg	•	1,000
8316226340	340 x 6.9 mm	90 mm	54 kg	•	500

Cable ties with metal tongue 6.6 black

Thomas & Betts

Approvals: UL, Germanischer Lloyd, Lloyd's Register of Shipping, Bureau Veritas and MIL.

Application: Cable ties are primarily used to fasten and fix individual cables and entire cable strands, but also to permanently or temporarily fasten many objects used in the skilled crafts and industry.

Properties: Material: nylon PA 6.6, color: black, UV resistant, halogen free, silicone free. Temperature resistance: -40 °C to +85 °C. Flammability class UL 94 V-2. The corrosion-resistant, anti-magnetic steel tongue in the cable tie head guarantees a very strong and secure hold, even in adverse conditions such as high air humidity, heat or cold.

Advantages:

- the steel tongue guarantees a stronger and more secure hold
- numerous approvals



DG 8331

Item no.	Dimension	max. bundle Ø	min. load-bearing capacity	Price per 100 pieces	Package contents
831623290	92 x 2.4 mm	16 mm	8 kg	•	1,000
8316232200	203 x 2.4 mm	50 mm	8 kg	•	1,000
8316233140	140 x 3.6 mm	29 mm	18 kg	•	1,000
8316234190	186 x 4.8 mm	45 mm	22 kg	•	1,000
8316234360	361 x 4.8 mm	102 mm	22 kg	•	1,000
8316236340	340 x 6.9 mm	90 mm	54 kg	•	500

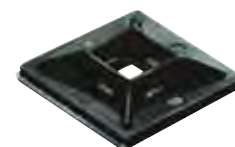
Cable tie/fastening element

Application: Mounting bases are used to fasten and fix cable ties to smooth surfaces.

Properties: Material - PA polyamide 6.6, halogen free and UV stabilized (black design). Temperature range - base -40 °C to +85 °C, adhesive -10 °C to +65 °C. Suitable for adhering and/or screwing in (19 mm only for adhering).



natural						
Item no.	Type	Dimension	Assembly hole	for clips up to width	Price per 100 pieces	Package contents
622021919	SN1	19 x 19 mm	only for bonding	4.5 mm	•	100
622022828	SN2	28 x 28 mm	6 mm	5.5 mm	•	100



black						
Item no.	Type	Dimension	Assembly hole	for clips up to width	Price per 100 pieces	Package contents
622031919	SNX1	19 x 19 mm	only for bonding	4.5 mm	•	100
622032828	SNX2	28 x 28 mm	6 mm	5.5 mm	•	100

Lamella nails for cable ties

Application: The lamella nails are used to fasten cable ties to ceilings or walls.

Properties: The dimension 8 mm is UV resistant. Quick and easy fastening - only insert bores and nails.



DG 2125

Plastic					
Item no.	Dimension	Color	Hole Ø	Price per 100 pieces	Package contents
62166640	6 x 40 mm	gray	6 mm	•	200
62166835	8 x 35 mm	black	8 mm	•	200

Fixpins - impact nail, hardened in a salt bath

Application: Fixpins are used to fasten tubes or cables to concrete before the screed is applied. Fixpins 14 and 18 mm for direct installation of clamps and perforated tape on concrete for electric and heating installations. Fixpins 18 and 22 mm for direct installation of resin, spring and storm anchors.

Properties: Made of special electrical steel with a high carbon content. Special hardening process in a salt bath for extremely high toughness and fracture strength (SEC predicate). Quick, time-saving installation thanks to simple driving in with setting tools and hand hammer. No pre-drilling required. The design with a standard collar has a smooth shaft, the one with a wide collar has a ribbed shaft for even better adhesion in the substrate.

Note: Only handle fixpins with appropriate setting tools.



DG 2197

with small collar					
Item no.	Dimension	Price per 100 pieces	Package contents		
6259818	4 x 18 mm	•	200		



DG 2197

with wide collar					
Item no.	Dimension	Price per 100 pieces	Package contents		
6259918	4 x 18 mm	•	200		

Fixpin - impact nail, hardened in an oil bath

Application: Fixpins are used to fasten tubes or cables to concrete before the screed is applied. Fixpins 14 and 18 mm for direct installation of clamps and perforated tape on concrete for electric and heating installations. Fixpins 18 and 22 mm for direct installation of resin, spring and storm anchors.

Properties: Made of special electrical steel with a high carbon content and hardened in an oil bath. Quick, time-saving installation thanks to simple driving in with setting tools and hand hammer. No pre-drilling required. The design with a standard collar has a smooth shaft, the one with a wide collar has a ribbed shaft for even better adhesion in the substrate.

Note: Only handle fixpins with appropriate setting tools.



DG 2197

with small collar					
Item no.	Dimension	Price per 100 pieces	Package contents		
6260318	4 x 18 mm	•	200		



DG 2197

with wide collar					
Item no.	Dimension	Price per 100 pieces	Package contents		
6260418	4 x 18 mm	•	200		

Fixpin setting tools

Application: For driving fixpins into concrete.

Properties: Made of tool steel with very high quality (DIN 7255 safety standard). Suitable for all fixpin types except for fixpins with predetermined breaking points.



DG 2087

Item no.	Type	Price per 100 pieces	Package contents
62600	black, for all fixpin types, except for fixpins with a predetermined breaking point	•	1

Metal clips

Application: Metal clips are used to fasten pipes and cables to concrete with fixpin impact nails.



DG 2197

Item no.	Nominal size	for pipes/cables	Price per 100 pieces	Package contents
6259620	20 mm	ICE20 / 19 - 20 mm	•	200
6259624	24 mm	23 - 24 mm	•	150

Punched mounting strip

Application: Punched mounting strips can be used for many different applications. The main application area is fastening pipes and cables to concrete as well as for suspensions for pipes from concrete ceilings.

Properties: Flexible length selection.



DG 2193

galvanized					
Item no.	Dimension	for screws Ø	in rolls a	Price per piece	Package contents
6213512	12 x 0.75 mm	5 mm	10 m	•	10
6213517	17 x 0.75 mm	6 mm	10 m	•	10
6213525	25 x 0.75 mm	8 mm	10 m	•	10

galvanized

plastic-coated

DG 2193

Item no.	Dimension	for screws Ø	in rolls a	Price per piece	Package contents
6213714	14 x 3 mm	6 mm	10 m	•	1
6213718	18.5 x 3 mm	6 mm	10 m	•	1
6213727	27 x 3 mm	8 mm	10 m	•	1

Fischer pipe hanger RAH

Application: The RAH pipe hangers with internal thread serve as connecting elements for pipe suspensions.

Properties: Made of galvanically zinc-plated cast iron.



DG 2225

galvanized						
Item no.	Type	Thread	Hole Ø	Price per 100 pieces	Package contents	
625938	RAH M 8	M 8	8.5 mm	•	50	
6259310	RAH M 10	M 10	10.5 mm	•	50	

Suspension eyes

Application: The pipe hangers with internal thread serve as connecting elements for pipe suspensions.

Properties: Made of die-cast zinc (anti-corrosion, similar to galvanized material).



DG 2225

Die-cast zinc						
Item no.	Type	Thread	clear ring span	Overall length	Price per 100 pieces	Package contents
621381	R 10/6	M 6	10 mm	28 mm	•	100
621382	R 15/8	M 8	15 mm	35 mm	•	100

Suspension hook

Application: The suspension hooks with internal thread serve as connecting elements for light suspensions.

Properties: Made of galvanized cast iron.



DG 2225

galvanized						
Cast iron						
Item no.	Type	Thread	clear hook span	Overall length	Price per 100 pieces	Package contents
621383	AH 10/6	M 6	10 mm	28 mm	•	100

Fischer trapezoidal sheet metal fastener TZH

Application: The TZH profile suspending brackets are used to suspend pipes, cable lines, ventilation ducts and much more from sheet metal roofs.

Properties: With predetermined breaking points for easy adjustment to different trapezoidal sheet metal forms.

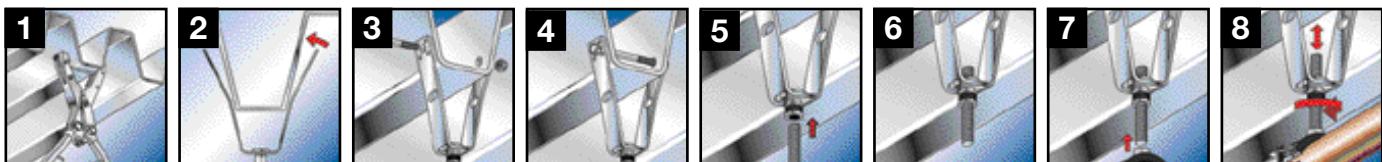
Simple subsequent height adjustment using an adjustment nut.

Note: We recommend the Fischer LZ punch for punching holes.



DG 2248

galvanized						
Item no.	Type	Thread	Price per 100 pieces	Package contents		
626018	TZH 8	M 8	•	100		



Fischer punch LZ

Application: For punching the installation holes for the Fischer TZH trapezoidal sheet metal fastener.

DG 2222

Item no.	Type	Price per piece	Package contents
626021	LZ	•	1



MTH Nova Grip clamping plates

Approved by the building authorities: Building Standards Approval Z-14.4-493 for connections of intersecting double-T beams M10 to M24.

Application: MTH Nova Grips are used to connect double-T beams in a cross connection in steel, crane, building and underground construction. For fastening photo-voltaic modules for solar power plants.

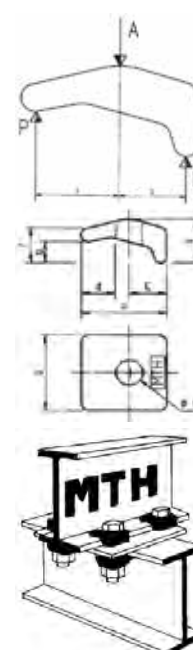
Properties: Material - heat-treated steel C 45+N drop forged and galvanically zinc-plated and hot-dip galvanized. Ideal design makes minor leveling corrections possible without problems. Easy to remove again at any time. Time saving installation without drilling and welding work.

galvanized DG 2245

Item no.	Thread	Price per piece	Package contents
624768	M 8	•	1
6247610	M 10	•	200
6247612	M 12	•	200
6247712	M 12 LA long press-on leg	•	1
6247812	M 12 LAS long press-on leg, high bearing leg	•	1
6247616	M 16	•	1
6247716	M 16 RF long press-on leg	•	1
6247620	M 20	•	1
6247624	M 24	•	1

hot-dip galvanized

Item no.	Thread	Price per piece	Package contents
6247910	M 10	•	1
6247912	M 12	•	1



Size table for MTH clamping plates

Clamping plate	a	b	Rating	Reaction force	Preload force of the 8.8 screw	Tightening torque McS2 lubricated	Transferable H forces u=0.1
for screw	mm	mm	P (kN)	B (kN)	A (kN)	Mv (Nm)	H (kN)
M 8	17.0	13.5	3.20	4.00	7.20	11.00	0.32
M 10	17.0	13.5	5.15	6.48	11.63	16.47	0.52
M 12 LA	30.0	16.0	5.31	6.71	12.11	19.05	0.62
M 12	20.0	16.0	7.50	9.37	16.81	28.37	0.75
M 16	27.0	21.0	12.55	16.13	28.68	63.76	1.26
M 20	34.0	26.0	21.25	27.28	49.03	137.26	2.13
M 24	41.0	31.0	25.96	34.34	60.30	202.45	2.60

Size table for clamping plates (MTH support brackets)

Screw	a	b	c	d	f	g	i	Ø t
M 8	36	32	16	13	15	8	20	9
M 10	36	32	16	13	15	8	20	11
M 12	43	38	19	17	18	10	23	13
M 12 LA	53	38	19	27	18	9	23	13
M 12 LAS	53	38	19	27	33	24	38	13
M 16	57	50	25	20	23	12	30	17
M 16 RF	82	50	31	41	23	12	34	17
M 20	71	63	31	25	30	16	38	21
M 24	86	76	38	30	34	17	43	25

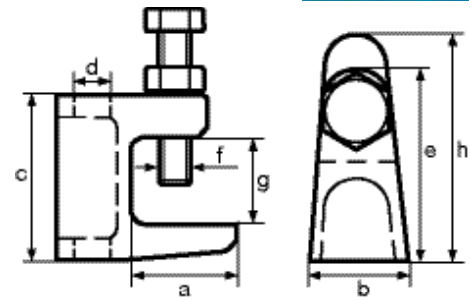
BTS girder clamp TKN

Application: Beam clamps make it possible to easily fasten objects to steel beams by clamping. Primary application areas are sprinkler systems, heating, ventilation and air conditioning construction, acoustic construction, electric, pipe and sanitary installations, machine and steel construction.

Properties: Material: Body of tempered cast iron, galvanically zinc-plated with hexagon screw 6 DIN 933 8.8, screw end with ring cut (CP) according to EN ISO 4753 and lock nut DIN 439.

Advantages:

- high load capacity
- quick and simple height adjustment
- height adjustment for through also possible at a later time
- fastening to steel beams without welding and drilling



DG 2245

Item no.	Type	a	b	c	d	e	f	g	h	Nomi- nal load	Certifi- cate	Price per 100 pieces	Pack- age con- tents
624750086	TKN8 / M 6	21 mm	19 mm	35 mm	M 6	35 mm	M 8	18 mm	38 mm	1200 Nm	UL	•	1
624750087	TKN8 / 7 mm	21 mm	19 mm	35 mm	7 mm	35 mm	M 8	18 mm	38 mm	1200 Nm	UL	•	1
624750088	TKN8 / M 8	21 mm	19 mm	35 mm	M 8	35 mm	M 8	18 mm	38 mm	1200 Nm	VdS, UL	•	1
624750089	TKN8 / 9 mm	21 mm	19 mm	35 mm	9 mm	35 mm	M 8	18 mm	38 mm	1200 Nm	VdS, UL	•	1
6247500106	TK10 / M 6	29 mm	21 mm	45 mm	M 6	41 mm	M 10	23 mm	50 mm	2500 Nm	UL	•	1
6247500107	TK10 / 7 mm	29 mm	21 mm	45 mm	7 mm	41 mm	M 10	23 mm	50 mm	2500 Nm	UL	•	1
6247500108	TK10 / M 8	29 mm	21 mm	45 mm	M 8	41 mm	M 10	23 mm	50 mm	2500 Nm	VdS, UL	•	1
6247500109	TK10 / 9 mm	29 mm	21 mm	45 mm	9 mm	41 mm	M 10	23 mm	50 mm	2500 Nm	VdS, UL	•	1
62475001010	TKN10 / M 10	23 mm	21 mm	42 mm	M 10	41 mm	M 10	20 mm	44 mm	2500 Nm	VdS, UL, FM	•	1
62475001011	TKN10 / 11 mm	23 mm	21 mm	42 mm	11 mm	41 mm	M 10	20 mm	44 mm	2500 Nm	VdS, UL, FM	•	1
62475001212	TK12 / M 12	35 mm	23.5 mm	54 mm	M 12	48 mm	M 10	26 mm	58 mm	3500 Nm	VdS, UL, FM	•	1
62475001213	TK12 / 13 mm	35 mm	23.5 mm	54 mm	13 mm	48 mm	M 10	26 mm	58 mm	3500 Nm	VdS, UL, FM	•	1
62475001610	TK16 / M 10	30 mm	29.5 mm	58 mm	M 10	55.5 mm	M 12	28 mm	58.3 mm	5500 Nm	VdS, UL, FM	•	1
62475001616	TK16 / M 16	30 mm	29.5 mm	58 mm	M 16	55.5 mm	M 12	28 mm	58.3 mm	5500 Nm	VdS, UL, FM	•	1
62475001617	TK16 / 17 mm	30 mm	29.5 mm	58 mm	17 mm	55.5 mm	M 12	28 mm	58.3 mm	5500 Nm	VdS, UL, FM	•	1

Fischer FGRS-Plus hinged pipe clamps

Application: The one-piece Fischer FGRS Plus hinged pipe clamps are used to install pipes used for sanitary and heating purposes.

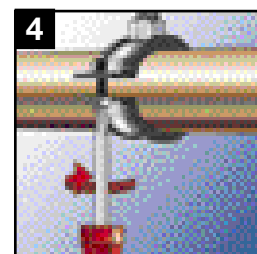
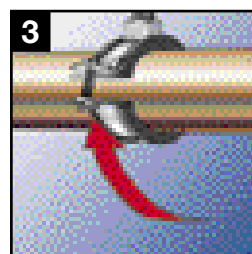
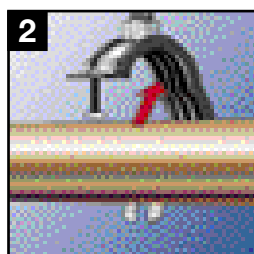
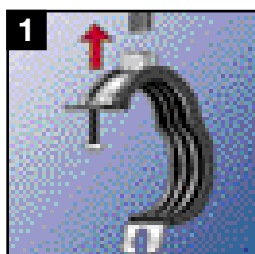
Properties: Soundproof according to DIN 4109, fire behavior according to DIN 4102 class B 2. Temperature resistant from -50 °C to +110 °C. One-piece with patented quick-release fastener and resetting mechanism. One-hand installation is possible without difficulty. Time- and energy-saving insertion for overhead installation. After it engages, the pipe is pre-installed and can be adjusted easily.

fischer 
innovative solutions



DG 2211

Item no.	Type	Nominal size	Clamping range	Con- nection thread	max. recom- mended static load (straight lift)	Price per 100 pieces	Package contents
621581215	FGRS-Plus 12-15	1/4"	12 - 15 mm	M 8	0.65 N	•	100
621581519	FGRS-Plus 15-19	3/8"	15 - 19 mm	M 8	0.65 N	•	100
621582024	FGRS-Plus 20-24	1/2"	20 - 24 mm	M 8	0.65 N	•	100
621582530	FGRS-Plus 25-30	3/4"	25 - 30 mm	M 8	0.65 N	•	100
621583237	FGRS-Plus 32-37	1"	32 - 37 mm	M 8	0.65 N	•	100
621584045	FGRS-Plus 40-45	1 1/4"	40 - 45 mm	M 8	0.90 N	•	50
621584853	FGRS-Plus 48-53	1 1/2"	48 - 53 mm	M 8	0.90 N	•	50
621585458	FGRS-Plus 54-58	-	54 - 58 mm	M 8	0.90 N	•	50
621585963	FGRS-Plus 59-63	2"	59 - 63 mm	M 8	0.90 N	•	50



Fischer FRS-Plus pipe clamps

Application: The two-part FRS Plus pipe clamps are used for installing pipes for sanitary and heating purposes as well as for sewage pipes on walls, floors and ceilings.

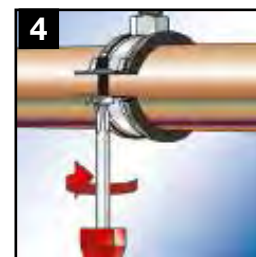
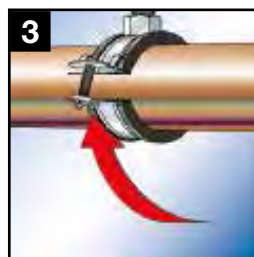
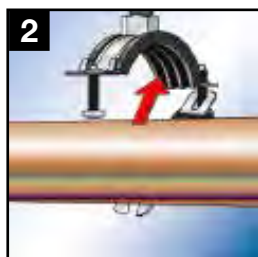
Properties: Soundproof according to DIN 4109, fire behavior according to DIN 4102 class B 2. Temperature resistant from -50 °C to +110 °C. 2-part with patented quick-release fastener. Combined connection thread M 8/M 10 for flexibility on the construction site. After it engages, the pipe is pre-installed and can be adjusted easily. Time- and energy-saving insertion for overhead installation.

Note: The two clamps 133-141 and 159-162 are Fischer FRS type but essentially correspond to the FRS Plus clamps.



DG 2213

Item no.	Type	Nominal size	Clamping range	Connection thread	max. recommended static load (straight lift)	Price per 100 pieces	Package contents
621571215	FRS-Plus 12-15	1/4"	12 - 15 mm	M 8 / M 10	0.8 kN	•	100
621571519	FRS-Plus 15-19	3/8"	15 - 19 mm	M 8 / M 10	0.8 kN	•	100
621572024	FRS-Plus 20-24	1/2"	20 - 24 mm	M 8 / M 10	0.8 kN	•	100
621572530	FRS-Plus 25-30	3/4"	25 - 30 mm	M 8 / M 10	0.8 kN	•	100
621573237	FRS-Plus 32-37	1"	32 - 37 mm	M 8 / M 10	0.8 kN	•	100
621574045	FRS-Plus 40-45	1 1/4"	40 - 45 mm	M 8 / M 10	0.8 kN	•	50
621574853	FRS-Plus 48-53	1 1/2"	48 - 53 mm	M 8 / M 10	0.8 kN	•	50
621575458	FRS-Plus 54-58	-	54 - 58 mm	M 8 / M 10	0.8 kN	•	50
621575963	FRS-Plus 59-63	2"	59 - 63 mm	M 8 / M 10	1.5 kN	•	50
621576264	FRS-Plus 62-64	-	62 - 64 mm	M 8 / M 10	1.5 kN	•	25
621576873	FRS-Plus 68-73	-	68 - 73 mm	M 8 / M 10	1.5 kN	•	25
621577478	FRS-Plus 74-78	2 1/2"	74 - 78 mm	M 8 / M 10	1.5 kN	•	25
621578286	FRS-Plus 80-86	-	80 - 86 mm	M 8 / M 10	1.5 kN	•	25
621573	FRS-Plus 87-92	-	87 - 92 mm	M 8 / M 10	1.5 kN	•	25
6215795103	FRS-Plus 95-103	-	95 - 103 mm	M 8 / M 10	1.5 kN	•	25
62157108116	FRS-Plus 108-116	4"	108 - 116 mm	M 8 / M 10	1.5 kN	•	20
62614133141	FRS 133-141	5"	133 - 141 mm	M 8 / M 10	2 kN	•	10
62614159162	FRS 159-162	-	159 - 162 mm	M 8 / M 10	2 kN	•	8



Fischer mounting rails MS

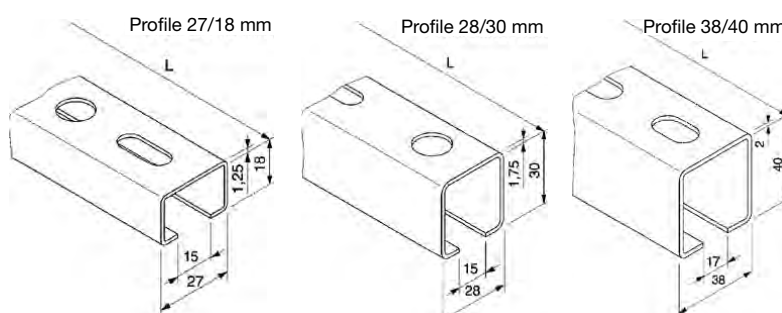
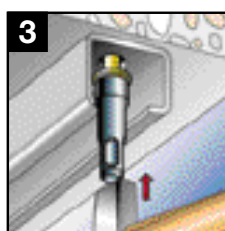
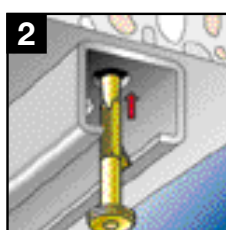
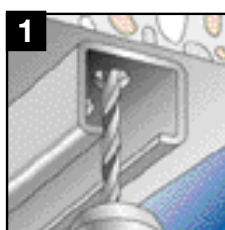
Application: The Fischer MS mounting rails are used for the horizontal and vertical installation of brackets as well as producing cross beams, brackets and supporting frames of all kinds.

Properties: High flexibility thanks to standardized hole geometry. Easy to cut to length and install thanks to recessed contact spacing on the rail side.

Note: For secure fastening, we recommend Fischer rail fasteners FNA II.

galvanized				DG 2224	
Item no.	Profile	Length	Price per piece	Package contents	
625592718	27 x 18 x 1.25 mm	2,000 mm	•	1	
625592830	28 x 30 x 1.75 mm	2,000 mm	•	1	
625593840	38 x 40 x 2 mm	2,000 mm	•	1	
6261238403	38 x 40 x 2 mm	3.000 mm	•	1	

We can send you further information on request.



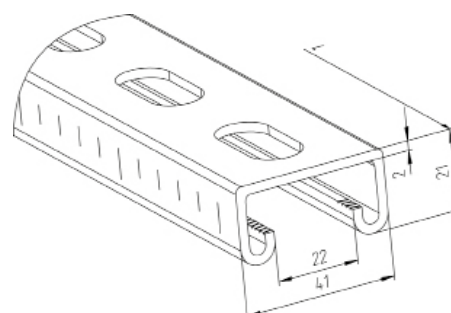
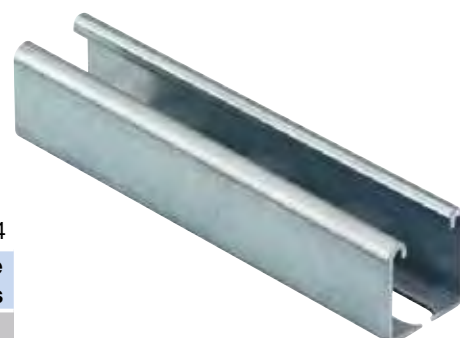
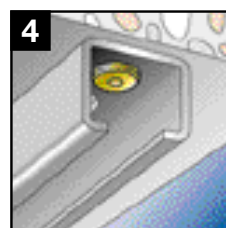
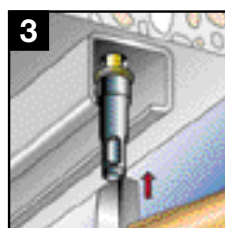
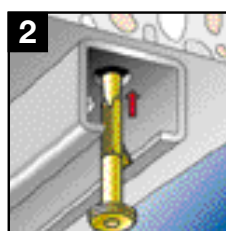
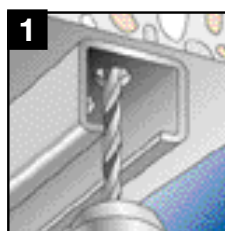
Fischer mounting rails FUS

Application: The Fischer FUS mounting rails are used for the horizontal and vertical installation of brackets as well as producing cross beams, brackets and supporting frames of all kinds.

Properties: Secure hold of sliding nuts thanks to tooth arrangement on the profile rails. Easy to cut to length and install thanks to recessed contact spacing on the rail side. Optimized profile cross-section ensures increased bending strength and pull-out resistance.

Note: For secure fastening, we recommend Fischer FNA II rail fasteners.

galvanized				DG 2224	
Item no.	Profile	Length	Price per piece	Package contents	
6261341212	41 x 21 x 2 mm	2.000 mm	•	1	



Fischer assembly bracket MW

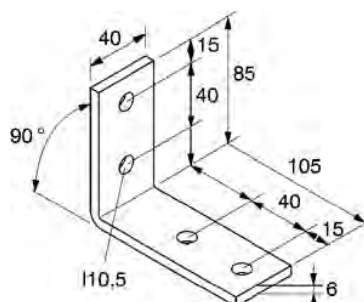
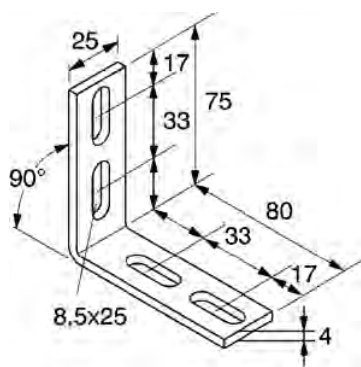
Application: The Fischer MW mounting brackets are used for bracing and manufacturing rail supporting structures, cross beams or overhangs.

Properties: Variable mounting options. Installation advantages when manufacturing structures in conjunction with Fischer mounting rails.

galvanized

DG 2225

Item no.	Type	Dimension	suitable for profiles	Price per piece	Package contents
625652790	MW 27-90	75 x 80 x 25 mm	27/18 + 28/30 mm	•	25
625653890	MW 38-90	85 x 105 x 40 mm	38/40 mm	•	20



Fischer universal bracket UWS

Application: The Fischer UWS angle brackets are used for bracing and manufacturing rail supporting structures, cross beams or overhangs.

Properties: Flexible structural element with the option for horizontal or vertical orientation. Very high stability.

Note: The Fischer universal brackets should be used in pairs.

galvanized

DG 2225

Item no.	Type	Dimension	suitable for profiles	Price per piece	Package contents
62614	UWS	135 x 135 x 42 x 4 mm	38/40 + 41/41 + 40/60 + 40/120 mm	•	10



Sliding nuts FCN

Application: The Fischer FCN sliding nuts serve as fastening elements for pipe clamps with M 8 internal thread to mounting rails or brackets.

Properties: With two longitudinal grooves that ensure a secure hold in the toothed Fischer FUS profile rails.

Installation instructions: Insert into the rail and rotate 90°.

galvanized

DG 2225

Item no.	Type	Thread	Dimension	suitable for profiles	Price per 100 pieces	Package contents
626098	FCN 8	M 8	35 x 20/8 mm	FUS 21/41 +62 Profiles	•	100



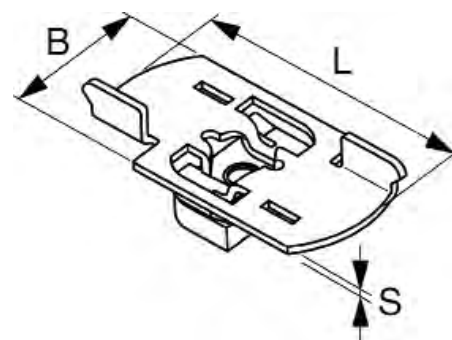
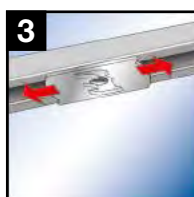
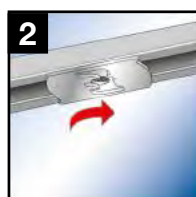
Sliding nuts Clix MK

Application: The Fischer Clix MK sliding nuts serve as fastening elements for pipe clamps with M 8 and M 10 internal thread to mounting rails or brackets.

Installation instructions: Insert into the rail, rotate 90° and then secure with a nut.

DG 2225

Item no.	Type	Thread	Dimension	suitable for	Price	Package contents
626108	Clix M 8	M 8	54 x 28 x 1.5 mm	27/18, 28/30 MS Profile	•	100
6261010	Clix M 10	M 10	54 x 28 x 1.5 mm	27/18, 28/30 MS Profile	•	100



Fischer sliding nuts SM

Application: The Fischer SM sliding nuts are used to fasten threaded pins or threaded rods M 8 and M 10 to mounting rails or brackets.

Installation instructions: After the threaded plate is oriented, it should be secured against unintentional loosening using a nut.

fischer
innovative solutions



DG 2225

galvanized						
Item no.	Type	Thread	Dimension	suitable for	Price per 100 pieces	Package contents
625698	SM 38 M 8	M 8	33 x 23 x 6 mm	27/18, 28/30, 38/40, 40/60 MS Profile	•	50
6256910	SM 38 M 10	M 10	33 x 23 x 6 mm	27/18, 28/30, 38/40, 40/60 MS Profile	•	50

Fischer T-head threaded plate HG 27

Application: The Fischer HG T-head threaded plates are used to fasten threaded rods or T-bolts M 8 to mounting rails or brackets.

Installation instructions: After the threaded plate is oriented, it should be secured against unintentional loosening using a nut.

fischer
innovative solutions



DG 2225

galvanized						
Item no.	Type	Thread	Dimension	suitable for	Price per 100 pieces	Package contents
625688	HG 27 M 8	M 8	22 x 13 x 5 MS profiles	27/18, 28/30 mm	•	50

Fischer T-bolts FHS CLIX N

Application: The patented Fischer FHS Clix N T-head bolts are used as fastening elements for pipe clamps with M 8 internal threads to mounting rails or brackets.

Properties: Complete with captive threaded plate. Simple, quick one-hand installation as well as later installation in the rail possible. Easy height correction thanks to easily separable grooved pin.

Advantages:

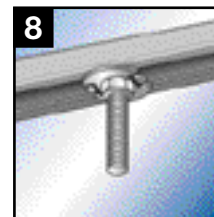
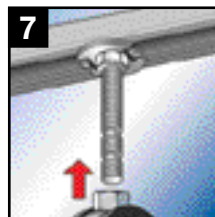
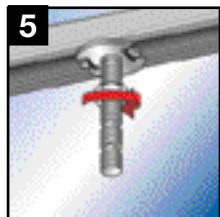
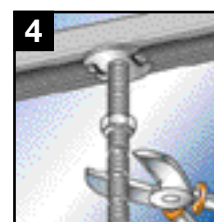
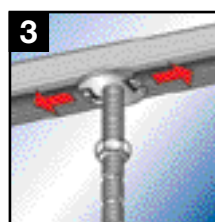
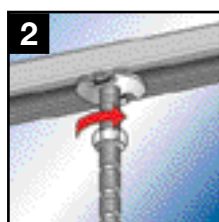
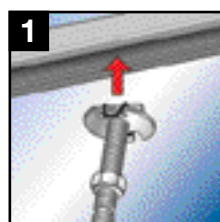
- easy height correction
- the grooved pin can be adjusted to the correct length using a bolt cutter



galvanized

DG 2225

Item no.	Type	Thread	Length	suitable for profiles	Price per 100 pieces	Package contents
62569890	FHS CLIX-N 8/90	M 8	90 mm	for all profiles	•	50
625698140	FHS CLIX-N 8/140	M 8	140 mm	with 15 mm	•	50
625698190	FHS CLIX-N 8/190	M 8	190 mm	Slot width	•	50



Fischer washer U

Application: For installation on Fischer profile rails.

Properties: Particularly large external diameter for covering slits in the mounting rails.



DG 2225

Item no.	Inside Ø	Outside Ø	Thickness	Price per 100 pieces	Package contents
62595840	8.4 mm	40 mm	3 mm	•	100
625951040	10.5 mm	40 mm	3 mm	•	100

Fischer reduction sleeves - reducers

Application: The Fischer reducers or reduction sleeves RD and RDM are used to reduce or to enlarge threaded connections.

Properties: The RDM sleeves reduce 2 external threads, the RD reducers reduce internal and external threads.



DG 2225

Item no.	Type	Thread	Price per 100 pieces	Package contents
62590810	RDM 10/8	Internal thread M 10 / M 8	•	50
625911210	RDM 12/10	Internal thread M 12, External thread M 10	•	100

**Special article for
carpentry work in
wooden construction**

Gutzeit perforated plates

Application: There are many possible applications for perforated plates in wooden construction. Perforated plates are preferably used for creating valley rafters or when building framework.

Installation instructions: The perforated plates are fastened with anchor nails 4 mm Ø or with screws. 2 perforated plates are recommended for each connection.



DG 2185

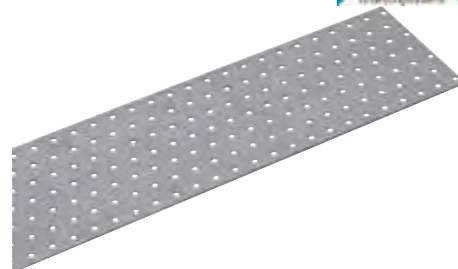
hot-dip galvanized

Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
6278260140	60 x 140 x 2 mm	5 mm / 21	•	100
6278260200	60 x 200 x 2 mm	5 mm / 30	•	50
6278260240	60 x 240 x 2 mm	5 mm / 36	•	50
6278280200	80 x 200 x 2 mm	5 mm / 40	•	50
6278280240	80 x 240 x 2 mm	5 mm / 48	•	50
6278280300	80 x 300 x 2 mm	5 mm / 60	•	25
62782100140	100 x 140 x 2 mm	5 mm / 35	•	50
62782100200	100 x 200 x 2 mm	5 mm / 50	•	50
62782100240	100 x 240 x 2 mm	5 mm / 60	•	50
62782100300	100 x 300 x 2 mm	5 mm / 75	•	25
62782120200	120 x 200 x 2 mm	5 mm / 60	•	50
62782120240	120 x 240 x 2 mm	5 mm / 72	•	25
62782120300	120 x 300 x 2 mm	5 mm / 90	•	25
62782200300	200 x 300 x 2 mm	5 mm / 150	•	1

Gutzeit perforated plate strips

Application: There are many possible applications for perforated plate strips in wooden construction. Perforated plate strips are preferably used in places where structural stability, force transmission and diversion of wind suction forces are required.

Installation instructions: The perforated plate strips are fastened with anchor nails 4 mm Ø or with screws. 2 perforated plate strips are recommended for each connection.



DG 2185

hot-dip galvanized

Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
6279660	60 x 1.200 x 2 mm	5 mm / 180	•	1
6279680	80 x 1.200 x 2 mm	5 mm / 240	•	1
62796100	100 x 1.200 x 2 mm	5 mm / 300	•	1
62796120	120 x 1.200 x 2 mm	5 mm / 360	•	1
62796140	140 x 1.200 x 2 mm	5 mm / 420	•	1
62796160	160 x 1.200 x 2 mm	5 mm / 480	•	1
62796200	200 x 1.200 x 2 mm	5 mm / 600	•	1
62796240	240 x 1.200 x 2 mm	5 mm / 720	•	1

Gutzeit flat connector

Application: There are many possible applications for flat connectors in wooden construction. Flat connectors are preferably used as a replacement for post stand connections made by carpenters as well as primarily in framework stand construction where structural stability, force transmission and diversion of wind suction forces are required.

Installation instructions: The flat connectors are fastened with anchor nails 4 mm Ø and/or with screws. 2 flat connectors are recommended for each connection.



hot-dip galvanized

DG 2185

Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
6279413555	55 x 155 x 2.5 mm	5 mm / 20 - 13 mm / 2	•	50
6279417565	65 x 175 x 2.5 mm	5 mm / 20 - 13 mm / 2	•	50
6279420090	90 x 200 x 3 mm	5 mm / 32 - 13 mm / 4	•	50

Gutzeit bracket connector

Approved by the building authorities: European Technical Approval ETA 09/0133 without beading and ETA 09/ 0134 with beading (except for item no. 623149).

Application: There are many possible applications for bracket connectors with and without reinforcement beading in wooden construction. Bracket connectors are preferably used for fastening square timbers to masonry and concrete as well as for wood/wood connections. With greater demands on the product, using the types with reinforcement beading is recommended.

Installation instructions: The bracket connectors are fastened with anchor nails 4 mm Ø in load carrying capacity class 3 C. Fastening through the 13 mm holes in the masonry, concrete or wood is done with suitable dowels and screws or bolts. Further details according to DIN 1052 or the technical documents of the manufacturer.

Note: The brackets with item no. 623149 are not included in the approval.

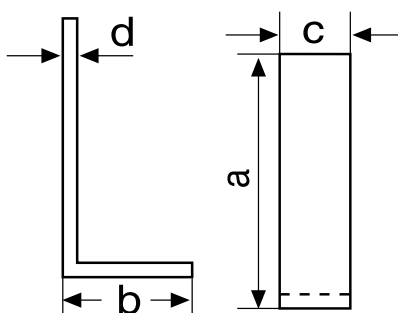


hot-dip galvanized

DG 2185

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per 100 pieces	Package contents
623149	40 x 40 x 40 x 2 mm	5 mm / 6	•	100
627815050	50 x 50 x 35 x 2.5 mm	5 mm / 8 - 11 mm / 2	•	150
6278170	70 x 70 x 55 x 2.5 mm	5 mm / 20 - 13 mm / 2	•	100
6278070	70 x 70 x 55 x 2.5* mm	5 mm / 20 - 13 mm / 2	•	100
627819090	90 x 90 x 40 x 3 mm	5 mm / 16 - 11 mm / 4	•	100
6278190	90 x 90 x 65 x 2.5 mm	5 mm / 20 - 13 mm / 2	•	100
6278090	90 x 90 x 65 x 2.5* mm	5 mm / 20 - 13 mm / 2	•	100
62781105	105 x 105 x 90 x 3 mm	5 mm / 32 - 13 mm / 4	•	50
62780105	105 x 105 x 90 x 3* mm	5 mm / 24 - 13 mm / 4	•	50

*) with reinforcement beading.



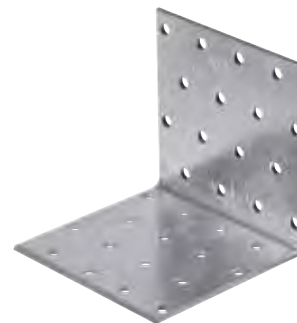
Gutzeit perforated plate bracket, isosceles

Approved by the building authorities: European Technical Approval ETA 09/0133 (except for item no. 627834020).

Application: Perforated plate brackets can be used versatilely where low demands are made regarding the forces to be connected. Main application areas include cross connections, replacements and beam/support connections.

Installation instructions: The perforated plate brackets are fastened with anchor nails 4 mm Ø in load carrying capacity class 3 C.

Note: The brackets with item no. 627834020 are not included in the approval.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per 100 pieces	Package contents
627834020	40 x 40 x 20 x 2 mm	5 mm / 4	•	100
627834040	40 x 40 x 40 x 2 mm	5 mm / 8	•	100
627835040	50 x 40 x 40 x 2 mm	5 mm / 8	•	100
627836040	60 x 60 x 40 x 2 mm	5 mm / 12	•	100
627836060	60 x 60 x 60 x 2 mm	5 mm / 18	•	100
627836080	60 x 60 x 80 x 2.5 mm	5 mm / 24	•	50
6278360100	60 x 60 x 100 x 2.5 mm	5 mm / 30	•	50
627838060	80 x 80 x 60 x 2.5 mm	5 mm / 24	•	50
627838080	80 x 80 x 80 x 2.5 mm	5 mm / 32	•	50
6278380100	80 x 80 x 100 x 2.5 mm	5 mm / 40	•	25
6278310060	100 x 100 x 60 x 2.5 mm	5 mm / 30	•	50
6278310080	100 x 100 x 80 x 2.5 mm	5 mm / 40	•	50
62783100100	100 x 100 x 100 x 2.5 mm	5 mm / 50	•	25

Gutzeit perforated plate bracket, non-isosceles

Type: Hot-dip galvanized steel with ETA approval 09/0133.

Application: For all kinds of connections. Can be used in places where low demands are made regarding the forces to be connected.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per 100 pieces	Package contents
627846080	60 x 80 x 60 x 2.5 mm	5 mm / 21	•	50

Gutzeit bracket connector

Approved by the building authorities: European Technical Approval ETA 09/0133 without beading and ETA 09/0134 with beading.

Application: There are many possible applications for bracket connectors with and without reinforcement beading in wooden construction. Bracket connectors are preferably used for fastening square timbers to masonry and concrete as well as for wood/wood connections. The bracket connectors with reinforcement beading are particularly suitable for connections where high forces need to be transferred.

Properties: Reinforcement beading for the type with item no. 627869076.

Installation instructions: The bracket connectors are fastened with anchor nails 4 mm Ø in load carrying capacity class 3 C. Fastening through the 13 mm holes in the masonry, concrete or wood is done with suitable dowels and screws or bolts. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per 100 pieces	Package contents
627869048	90 x 48 x 48 x 3 mm	5 mm / 11 - 13 mm / 3	•	50
627869076	90 x 48 x 76 x 3 mm	5 mm / 16 - 13 mm / 5	•	50

Gutzeit bracket connector

Approved by the building authorities: European Technical Approval ETA 09/0133.

Application: There are many possible applications for bracket connectors in wooden construction. Bracket connectors are preferably used for fastening square timbers to masonry and concrete as well as for wood/wood connections.

Installation instructions: The bracket connectors are fastened with anchor nails 4 mm Ø in load carrying capacity class 3 C. Fastening through the 9 mm and 13 mm holes in the masonry, concrete or wood is done with suitable dowels and screws or bolts. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per 100 pieces	Package contents
627879035	90 x 35 x 40 x 2.5 mm	5 mm / 10 - 9 mm / 2	•	100
6278712035	120 x 35 x 40 x 3 mm	5 mm / 12 - 13 mm / 1	•	100
6278716050	160 x 50 x 40 x 3 mm	5 mm / 14 - 13 mm / 3	•	50

Gutzeit concrete bracket

Application: Concrete bracket connectors are used to fasten wooden components to concrete, natural stone or masonry.

Properties: Very stable design. Transfers high forces and tilting moments.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per 100 pieces	Package contents
6280075756	75 x 75 x 60 x 6 mm	14 mm / 1 - 14 x 29 mm / 1	•	50
62800751006	100 x 75 x 60 x 6 mm	14 mm / 1 - 14 x 29 mm / 1	•	25
62800751506	150 x 75 x 60 x 6 mm	14 mm / 2 - 14 x 29 mm / 1	•	25
62800751008	100 x 75 x 60 x 8 mm	14 mm / 1 - 14 x 25 mm / 1	•	25
62800751508	150 x 75 x 60 x 8 mm	14 mm / 2 - 14 x 29 mm / 1	•	25

Gutzeit steel bracket

Application: For connections of lightweight wooden structures e.g. in furniture or model construction.



DG 2185

yellow galvanized

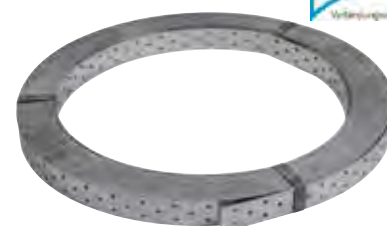
Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
6279240	40 x 40 x 15 x 2 mm	4.5 mm / 4	•	50
6279260	60 x 60 x 18 x 2 mm	4.5 mm / 4	•	50

Gutzeit wind bracing strap

Application: Wind bracing straps are used to brace roof structures.

Properties: 1.5 mm strap thickness with identical supporting values as 2 mm.

Installation instructions: The bracket connectors are fastened to the rafter with 4 mm Ø anchor nails in load carrying capacity class 3 C or with suitable screws. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimension	Roll length	Hole Ø	Price per piece	Package contents
6278540	40 x 1.5 mm	50 m	5 mm	•	1
6278560	60 x 1.5 mm	50 m	5 mm	•	1
6279140	40 x 2 mm	50 m	5 mm	•	1
6279160	60 x 2 mm	50 m	5 mm	•	1

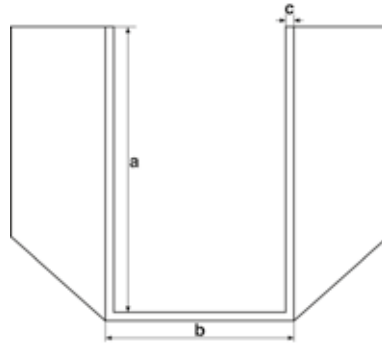
Gutzeit joist hanger, angled outwards

Approved by the building authorities: European Technical Approval ETA 09/0015 (item no. 6279760100 - 62797140180). European Technical Approval ETA 09/0170 (item no. 6232133 - 6232136).

Application: Joist hangers are used for connecting secondary beams to main beams or supports. With full nailing, also suitable for biaxial loads.

Properties: With additional large boreholes (combination perforation) for connections to concrete, masonry and steel. (except for item no. 6232133 and 6232136)

Installation instructions: The bracket connectors are fastened to the beam with 4 mm Ø anchor nails in load carrying capacity class 3 C or screws. Fastening through the 7 mm and 11 mm holes in the masonry, concrete or wood is done with suitable dowels and screws or bolts. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c	Number of holes x hole Ø	Price per 100 pieces	Package contents
6279760100	60 x 100 x 2 mm	5 mm / 22 - 7 mm / 1 - 11 mm / 4	•	50
6279780120	80 x 120 x 2 mm	5 mm / 28 - 7 mm / 1 - 11 mm / 4	•	50
62797100140	100 x 140 x 2 mm	5 mm / 34 - 7 mm / 1 - 11 mm / 4	•	25
62797120160	120 x 160 x 2 mm	5 mm / 40 - 7 mm / 1 - 11 mm / 4	•	25
62797140180	140 x 180 x 2 mm	5 mm / 48 - 7 mm / 1 - 11 mm / 4	•	25
6232133	160 x 200 x 2.5 mm	5 mm / 56 mm / - / -	•	25
6232136	180 x 220 x 2.5 mm	5 mm / 60 mm / - / -	•	25

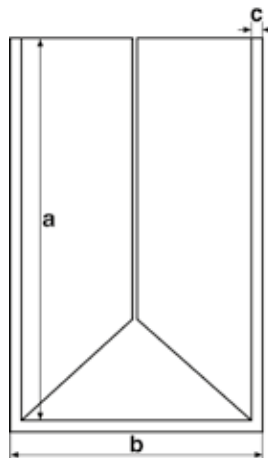
Gutzeit joist hanger, angled inwards

Approved by the building authorities: European Technical Approval ETA 09/0015.

Application: Joist hangers are used for concealed, hidden connections of secondary beams to main beams or supports.

Properties: With additional large boreholes (combination perforation) for connections to concrete, masonry and steel.

Installation instructions: The bracket connectors are fastened with 4 mm Ø anchor nails in load carrying capacity class 3 C or screws. Fastening through the 7 mm and 11 mm holes in the masonry, concrete or wood is done with suitable dowels and screws or bolts. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimensions a x b x c	Number of holes x hole Ø	Price per 100 pieces	Package contents
6279880120	80 x 120 x 2 mm	5 mm / 28 - 7 mm / 1 - 11 mm / 4	•	50
62798100140	100 x 140 x 2 mm	5 mm / 34 - 7 mm / 1 - 11 mm / 4	•	50
62798120160	120 x 160 x 2 mm	5 mm / 40 - 7 mm / 1 - 11 mm / 4	•	25
62798140180	140 x 180 x 2 mm	5 mm / 48 - 7 mm / 1 - 11 mm / 4	•	25

Gutzeit rafter anchor 2-part, right/left

Approved by the building authorities: European Technical Approval ETA 09/0104.

Application: Rafter anchors are primarily used to tightly connect two timbers that intersect each other at a right angle. Also to secure rafters to hall girders and to transfer permanent loads, such as those of an attached beam, to rafters.

Installation instructions: The rafter anchors are fastened with anchor nails 4 mm Ø in load carrying capacity class 3 C. Further details according to DIN 1052 or the technical documents of the manufacturer.

Note: Every carton always contains the same number of right and left rafter anchors.



hot-dip galvanized

Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
62799170	170 x 32 x 2 mm	5 mm / 20	•	100
62799210	210 x 32 x 2 mm	5 mm / 28	•	100
62799250	250 x 32 x 2 mm	5 mm / 36	•	50
62799290	290 x 32 x 2 mm	5 mm / 44	•	100
623335	330 x 32 x 2 mm	5 mm / 26	•	100

For an order of 100 units, 50 left and 50 right rafter anchors each are included.

Hidden wood connector IdeeFix

Approved by the building authorities: Building Standards Approval no. Z-9.1-713.

Application: For universal use, for hidden wood/wood attachments. Main application areas for IdeeFix wood connectors are hidden connections of main and secondary girders.

Properties: Completely hidden, can be retensioned and removed easily. Low wood weakening. High load carrying capacity under tensile and transverse forces. Suitable for single and multi-row series connections. Complete with system screws.

Installation instructions: Connections where pure tensile forces occur are set flush. For main-secondary girder connections, the IdeeFix is set in such a way that the connector sits partially in the main girder to absorb transverse loads.

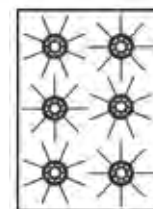
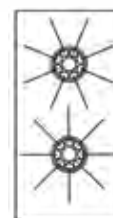
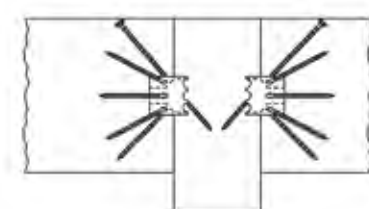
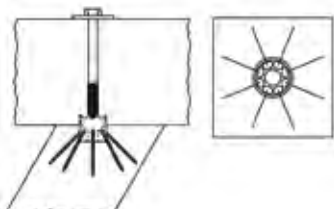
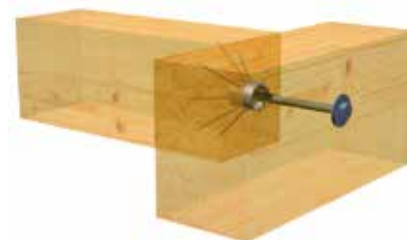
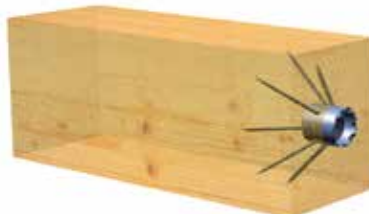


DG 2185

galvanized

Item no.	Type	Internal thread	Hole Ø	Scope of supply	Price per piece	Package contents
6284030	IdeeFix 30	M 12	30 mm	8 screws 5 x 40	•	25
6284040	IdeeFix 40	M 16	40 mm	8 screws 6 x 50	•	25
6284050	IdeeFix 50	M 20	50 mm	8 screws 8 x 90	•	1

You can request planning aids and the approval test report through us.



Gutzeit summers

Approved by the building authorities: European Technical Approval ETA 09/0105.

Application: Summers are used for the concealed fastening of visible connection joints between main and secondary beams. Main application areas include ceiling beams located in one level and downstand beams or rafters.

Properties: With mounting slot for easy and smooth installation.

Installation instructions: Installation on the main beam is done with 4 mm Ø anchor nails in load carrying capacity class 3 C. The attachment to the secondary beam with rod dowels 12 mm. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
62788120	120 mm	5 mm / 11 - 13 mm / 3	•	25
62788160	160 mm	5 mm / 15 - 13 mm / 4	•	25
62788200	200 mm	5 mm / 19 - 13 mm / 4	•	15

Gutzeit HE anchor girder connector

Application: The HE girder connectors are used to fasten wooden beams to T-girders.

Installation instructions: The HE girder connectors must be installed diagonally.

For fastening, anchor nails of 4 mm Ø in load carrying capacity class 3 C or, provided large holes are present, screws of 12 mm are to be used. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

hot-dip galvanized

Item no.	Dimension	Number of holes x hole Ø	Price per 100 pieces	Package contents
6279040135	40 x 135 x 4 mm	5 mm / 6	•	100
6279040175	40 x 175 x 4 mm	5 mm / 10 - 13 mm / 2	•	50
623263	50 x 200 x 3 mm	5 mm / 10 - 11 mm / 1	•	100

Gutzeit profile anchor

Application: The profile anchors are used to fasten wooden beam profile rails.

Installation instructions: We recommend installing the profile anchors on both sides. For fastening, anchor nails of 4 mm Ø in load carrying capacity class 3 C or, provided large holes are present, screws of 12 mm are to be used. Further details according to DIN 1052 or the technical documents of the manufacturer.



DG 2185

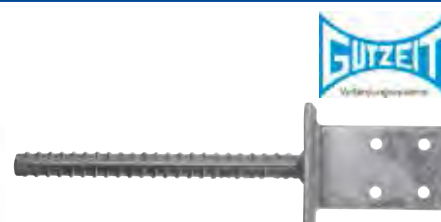
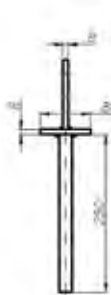
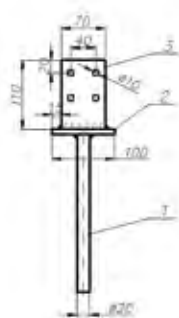
hot-dip galvanized

Item no.	Dimension	for profiles	Number of holes x hole Ø	Price per 100 pieces	Package contents
6278935108	35 x 108 x 3 mm	28 / 15 (Halfeneisen)	5 mm / 8	•	100
6278935158	35 x 158 x 3 mm	28 / 15 (Halfeneisen)	5 mm / 11	•	100
6278935198	35 x 198 x 3 mm	28 / 15 (Halfeneisen)	5 mm / 15	•	50
6278935159	35 x 159 x 4 mm	38 / 17 (Halfeneisen)	5 mm / 8 - 13 mm / 1	•	50

Gutzeit post anchors T form with ribbed dowel

Application: The type T post anchors are suitable for fastening lightweight structures such as carports or light awnings.

Properties: With 20 x 250 mm ribbed dowel for setting in concrete. Constructive wood protection thanks to concealed connection.



hot-dip galvanized

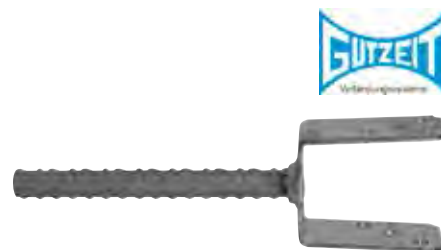
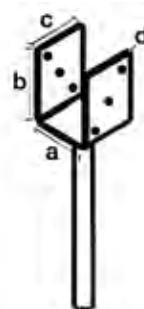
DG 2185

Item no.	Mounting plate	Side clip	Number of holes x hole Ø	Price per piece	Package contents
62809250	80 x 100 x 8 mm	70 x 110 x 8 mm	10 mm / 4	•	10

Gutzeit post anchors U form with ribbed dowel

Application: The type T post anchors are suitable for fastening lightweight structures such as carports or light awnings.

Properties: With 20 x 250 mm ribbed dowel for setting in concrete.



hot-dip galvanized

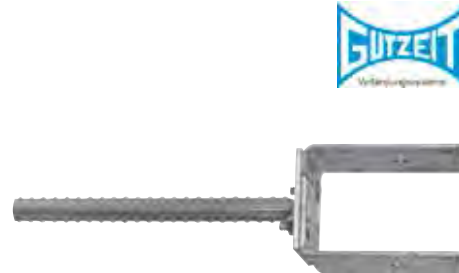
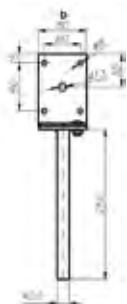
DG 2185

Item no.	Dimensions a x b x c x d	Number of holes x hole Ø	Price per piece	Package contents
6281171250	71 x 100 x 65 x 4 mm	11 mm / 6	•	10
6281181250	81 x 100 x 65 x 4 mm	11 mm / 6	•	10
6281191250	91 x 100 x 65 x 4 mm	11 mm / 6	•	10
62811101250	101 x 100 x 65 x 4 mm	11 mm / 6	•	10
62811121250	121 x 100 x 65 x 4 mm	11 mm / 6	•	10
62811141250	141 x 100 x 65 x 4 mm	11 mm / 6	•	10

Gutzeit post anchors U form with ribbed dowel, laterally adjustable

Application: The type U post anchors are suitable for fastening lightweight structures such as carports or light awnings.

Properties: With ribbed dowel for setting in concrete. Laterally adjustable for posts from 80 to 160 mm.



hot-dip galvanized

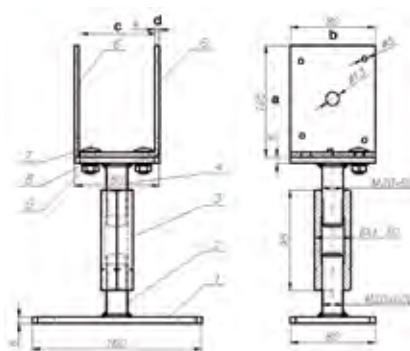
DG 2185

Item no.	Ribbed dowel	Dimensions a x b x c x d	Number of holes x hole Ø	Price per piece	Package contents
6281280250	20 x 250 mm	120 x 80 x 80-160 x 4 mm	8 mm / 8 - 13 mm / 2	•	10
6281280400	20 x 400 mm	120 x 80 x 80-160 x 4 mm	8 mm / 8 - 13 mm / 2	•	10

Gutzeit post anchors U form, vertically and laterally adjustable

Application: The type U post anchors are suitable for fastening lightweight structures such as carports or light awnings.

Properties: With base plate for surface mounting. Vertically adjustable by 70 mm (maximum), even in a properly installed state. Laterally adjustable for posts from 80 to 160 mm. Ground height 130 mm.



yellow chromated

DG 2185

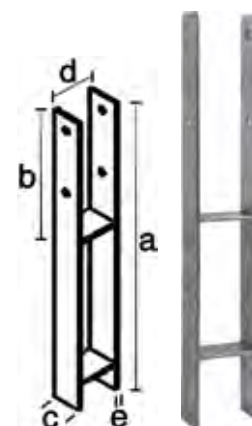
Item no.	Dimensions a x b x c x d	Height adjustment	Base plate	Number of holes x hole Ø	Price per piece	Package contents
6281380160	105 x 80 x 80-160 x 4 mm	70 mm	180 x 80 mm	5 mm / 8 - 13 mm / 2	•	10

Dowel holes in the base plate 4 holes, 13 mm Ø hole.

Gutzeit post anchors H form

Application: The form H post anchors are suited for fastening heavy wooden structures such as carports, awnings, windbreak fences, and much more.

Properties: Suitable for directly setting in concrete or for installation above a sleeve foundation.



hot-dip galvanized

DG 2185

Item no.	Dimensions a x b x c x d x e	for wooden posts	Hole Ø x number of holes	Price per piece	Package contents
6280871	600 x 250 x 60 x 71 x 6 mm	71 mm	12 mm/ 4	•	10
6280881	600 x 250 x 60 x 81 x 6 mm	81 mm	12 mm/ 4	•	10
6280891	600 x 250 x 60 x 91 x 6 mm	91 mm	12 mm/ 4	•	10
62808101	600 x 250 x 60 x 101 x 6 mm	101 mm	12 mm/ 4	•	10

Post anchor I form, with stone dowel, adjustable in height

Application: The form I post anchors are suited for fastening heavy wooden structures such as carports, awnings, windbreak fences, and much more.

Properties: With a stone dowel attached to the threaded rod for setting in concrete. Vertically adjustable (the specified range, naturally depending on the depth of setting in concrete, is 300 mm).



hot-dip galvanized

DG 2185

Item no.	Type	Overall height	Height adjustable	Threaded rod	Mounting plate	Number of holes Ø 11.0 mm	Price per piece	Package contents
6233016	1619	380 mm	150 - 200 mm	M 20	100/ 100/ 8 mm	4	•	15
6233017	1619a	380 mm	150 - 200 mm	M 24	100/ 100/ 8 mm	4	•	15

Gutzeit post anchor I form with pipe fowl, adjustable in height

Application: The form I post anchors are suited for fastening heavy wooden structures such as carports, awnings, windbreak fences, and much more.

Properties: With base plate for surface mounting. Vertically adjustable by 70 mm (maximum). Receptacle pin for rod dowel 10 mm.



DG 2185

hot-dip galvanized

Item no.	Thread	Basic height	Base plate	Mounting plate	Number of holes x hole Ø	Price per piece	Package contents
62814140	M 24 mm	140 mm	180 x 100 x 6 mm	100 x 100 x 8 mm	13 mm / 4	•	1
62814190	M 24 mm	190 mm	180 x 100 x 6 mm	100 x 100 x 8 mm	13 mm / 4	•	1

Pipe ø x thickness 48.3 mm x 3.25 mm.

Gutzeit post anchors form I 400 mm, vertically adjustable

Application: The form I post anchors are suited for fastening heavy wooden structures such as carports, awnings, windbreak fences, and much more. Such post anchors are predominantly used where the composition, e.g. a strong gravel layer, necessitates long pipe dowels.

Properties: With pipe dowel and small base plate for setting in concrete. Extra long design. Vertically adjustable by 70 mm (maximum). Receptacle pin for rod dowel 10 mm.



DG 2185

hot-dip galvanized

Item no.	Basic height	Base plate	Mounting plate	Price per piece	Package contents
62815400	400 mm	70 x 70 x 4 mm	100 x 100 x 8 mm	•	1

Pipe ø x length 48.3 mm x 3.25 mm.

Gutzeit post anchor I form with pipe fowl, adjustable in height

Application: The form I post anchors are suited for fastening heavy wooden structures such as carports, awnings, windbreak fences, and much more.

Properties: With base plate for surface mounting. Vertically adjustable by 70 mm (maximum), even in a properly installed state. Visually pleasing shape for hidden connections. Receptacle pin for rod dowel 10 mm.



DG 2185

yellow chromated

Item no.	Thread	Basic height	Mounting plate	Base plate	Hole Ø x number of holes	Price per piece	Package contents
62816	M 24	130 mm	80 x 80 x 6 mm	100 x 80 x 60 mm	13 mm / 4 in base plate, 13 mm / 2 + 13 x 20 mm / 2 in mounting plate	•	1

Holes in the base plate 4 ø 13 mm pieces, in the supporting plate 2 ø 13 mm pieces and 2 13 x 20 mm elongated holes.

Gutzeit post anchors P form

Application: The type P post anchors are especially suited for applications where high forces need to be absorbed.

Properties: Very stable design with strong 48.3 x 3.25 mm spacer tube. Constructive wood protection is provided thanks to hidden fastening from below.



hot-dip galvanized

DG 2185

Item no.	Height	Mounting plate	Base plate	Hole Ø x number of holes	Price per piece	Package contents
62817100	100 mm	100 x 100 x 6 mm	150 x 150 x 5 mm	13 mm / 4	•	10
62817150	150 mm	100 x 100 x 6 mm	150 x 150 x 5 mm	13 mm / 4	•	10

Post anchor type P, height-adjustable without rod dowel

Application: The type P post anchors are especially suited for applications where high forces need to be absorbed.

Properties: Very stable design. Vertically adjustable to 110 mm for threaded rod length 150 mm and max. 270 mm for threaded rod length 300 mm.



hot-dip galvanized

DG 2185

Item no.	Height	Threaded rod	Base plate	Mounting plate	Price per piece	Package contents
6233012	100 mm	M 20 x 150	150 x 150 x 5 mm	100 x 100 x 8 mm	•	15
6233013	150 mm	M 24 x 150	150 x 150 x 5 mm	100 x 100 x 8 mm	•	10
6233028	300 mm	M 20 x 300	180 x 100 x 5 mm	100 x 100 x 8 mm	•	12

With 4 holes each 13.0 mm Ø in the base and supporting plate. In item no. 6233028 there are only 2 holes in the supporting plate.

Gutzeit post anchors P form, vertically adjustable

Application: The type P post anchors are suitable for fastening light to heavy wooden structures.

Properties: With base plate for surface mounting. Vertically adjustable by 70 mm (maximum), even in a properly installed state. Visually pleasing shape for hidden connections. Constructive wood protection is provided thanks to hidden fastening from below.



yellow chromated

DG 2185

Item no.	Thread	Basic height	Mounting plate	Base plate	Price per piece	Package contents
62818	M 20	120 mm	80 x 80 x 6 mm	80 x 160 x 6 mm	•	10

Holes in the supporting plate 2 Ø 13 mm pieces and 2 13 x 20 mm elongated holes, in the base plate 4 Ø 13 mm pieces.

Gutzeit post anchors P/I form, vertically adjustable

Application: The type P post anchors are especially suited for applications where high forces need to be absorbed.

Properties: With base plate for surface mounting. Vertically adjustable.



DG 2185

hot-dip galvanized

Item no.	Height	Thread	Mounting plate	Base plate	Price per piece	Package contents
62819310	310 mm	M 24	100 x 150 x 8 mm	100 x 180 x 8 mm	•	1

Holes in the supporting plate 4 ø 11 mm pieces, in the base plate 4 ø 13 mm pieces.

Gutzeit post anchors T form

Application: The type T post anchors are especially suited for applications where high forces need to be absorbed.

Properties: Very stable design for high pressure forces. Strong 48.3 mm spacer tube. Large-scale 120 x 80 x 6 mm sword



DG 2185

hot-dip galvanized

Item no.	Height without sword	Base plate	Mounting plate	Hole Ø x base plate	Hole Ø x sword	Price per piece	Package contents
62820100	100 mm	180 x 100 x 6 mm	90 x 80 x 8 mm	13 mm/ 4	11 mm/ 4	•	1
62820150	150 mm	180 x 100 x 6 mm	90 x 80 x 8 mm	13 mm/ 4	11 mm/ 4	•	1
62820200	200 mm	180 x 100 x 6 mm	90 x 80 x 8 mm	13 mm/ 4	11 mm/ 4	•	1
62820250	250 mm	180 x 100 x 6 mm	90 x 80 x 8 mm	13 mm/ 4	11 mm/ 4	•	1

Holes in the sword 4 ø 11 mm pieces for 10 mm rod dowels, in the base plate 4 ø 13 mm pieces.

Gutzeit post anchors T form, vertically adjustable

Application: The type T post anchors are especially suited for applications where high forces need to be absorbed.

Properties: Very stable design for high pressure forces. Large-scale 110 x 70 x 8 mm sword.



DG 2185

hot-dip galvanized

Item no.	Height without sword	Base plate	Mounting plate	Hole Ø x base plate	Hole Ø x sword	Price per piece	Package contents
62820100	110 mm	160 x 70 x 8 mm	100 x 80 x 8 mm	13 mm/ 2	10 mm/ 4	•	1

Ribbed nails

Application: Anchor nails/ribbed nails are mainly used to fasten sheet metal parts in timber construction for load-bearing structures.

Properties: The anchor nails have the classification certificate with load carrying capacity class III.

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DG 2185

Item no.	Wire Ø	Thread Ø	Length	Price per 100 pieces	Package contents
623254040	4 mm	4.4 mm	40 mm	•	250
623254050	4 mm	4.4 mm	50 mm	•	250
623254060	4 mm	4.4 mm	60 mm	•	250
623254075	4 mm	4.4 mm	75 mm	•	250
6232540100	4 mm	4.4 mm	100 mm	•	250
623256060	6 mm	6.4 mm	60 mm	•	250
623256080	6 mm	6.4 mm	80 mm	•	250
6232560100	6 mm	6.4 mm	100 mm	•	250

Wood connector, one-ended

Application: Cast iron wood connectors are used in static wooden construction for transferring particularly great forces. One-sided connectors are used for connecting wood/steel, wood/concrete and wood/wood. Double-sided connectors are only used for connecting wood/wood.

Note: Correspond to the Construction Products Directive 89/106 EWG Building Rules List A 95/1.

BTS

Galvanized cast iron		DG 2180		
Item no.	Outside Ø	for bolts	Price per 100 pieces	Package contents
621051950	50 mm	M 12	•	50
621051965	65 mm	M 16	•	50
621051980	80 mm	M 20	•	25
621051995	95 mm	M 24	•	25
6210519115	115 mm	M 24	•	25



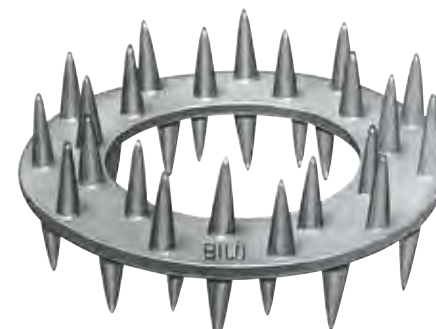
Wood connector, double-ended

Application: Cast iron wood connectors are used in static wooden construction for transferring particularly great forces. One-sided connectors are used for connecting wood/steel, wood/concrete and wood/wood. Double-sided connectors are only used for connecting wood/wood.

Note: Correspond to the Construction Products Directive 89/106 EWG Building Rules List A 95/1.

BTS

hot-dip galvanized		DG 2180	
Item no.	Outside Ø	Price per 100 pieces	Package contents
621052950	50 mm	•	50
621052965	65 mm	•	50
621052980	80 mm	•	25
621052995	95 mm	•	25

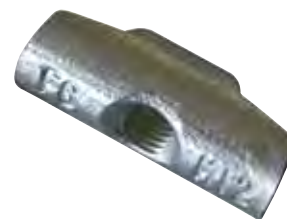


Simplex wood connector

Application: Simplex wood connectors are used for the non-positive, hidden connection of two timbers. Main application areas are end-grain connections.

galvanized

Item no.	Thread	Dimensions	Price per piece	Package contents
6245212	M 12	54 x 24 mm	•	100
6245216	M 16	72 x 32 mm	•	50



Simplex setting tool

Application: This setting tool is used to guide in and perfectly position the Simplex wood connectors.

Item no.	Price per piece	Package contents
62452	•	1



Construction clamp

Application: Cramps are mainly used to provisionally and temporarily connect two timbers.

hot-dip galvanized

Item no.	Length	Dimension	Price per 100 pieces	Package contents
6201609250	250 mm	25 x 5 mm	•	25
6201609300	300 mm	25 x 5 mm	•	25



Rafter nails

Application: Rafter nails are mainly used to fasten rafters to purlins.

Properties: The anchor nails have the classification certificate with load carrying capacity class III (except for length 325 mm).

Note: The rafters should be pre-drilled from a length of 180 mm.



galvanized

Item no.	Dimension	Price per 100 pieces	Package contents
62267150	6 x 150 mm	•	250
62267180	6 x 180 mm	•	100
62267210	6 x 210 mm	•	100
62267230	6 x 230 mm	•	100
62267260	6 x 260 mm	•	100
62267280	6 x 280 mm	•	100
62267300	6 x 300 mm	•	100
62267325	6 x 325 mm	•	100



DG 2182

Roof nails

Application: Roof nails are used to fasten and level the ridge or hip slat in the roof truss.

Properties: Stable riveting of U-sheet and nail.



galvanized

Item no.	Nail length	Bearing surface width	Price per piece	Package contents
62270210	210 mm	50 mm	•	50
62271210	210 mm	60 mm	•	50
62270230	230 mm	50 mm	•	50
62271230	230 mm	60 mm	•	50
62270260	260 mm	50 mm	•	50
62271260	260 mm	60 mm	•	50
62271310	310 mm	60 mm	•	50



DG 2181

Other dimensions can be delivered at short notice.

Countersunk head screw nails

Application: Screw nails are suitable for fastening light wooden or metal parts to wood.

Properties: Made of hardened steel with a countersunk head and screw thread. Large splice-free, thanks to the screw thread.

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galvanized

DG 2185

Item no.	Dimension	Price per 100 pieces	Package contents
6226140	3.6 x 40 mm	•	1.000
6226150	3.6 x 50 mm	•	1.000
6226165	4.5 x 65 mm	•	500
6226175	4.5 x 75 mm	•	250
62261100	5 x 100 mm	•	250

Steel nails, ribbed

Application: Steel nails are suitable for fastening timbers, laths, profiles, paneling on concrete and masonry.

Properties: Made of shatterproof, toughened steel with a deep countersunk head and ribbed shaft.

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hardened and metalized

DG 2185

Item no.	Dimension	Price per 100 pieces	Package contents
6224750	4.5 x 50 mm	•	250
6224760	4.5 x 60 mm	•	250
6224770	4.5 x 70 mm	•	250
6224780	4.5 x 80 mm	•	250
62247100	4.5 x 100 mm	•	250

Copper deck nails

Application: Copper nails are used to fasten copper sheets when covering roofs.

Properties: With large head and slightly ribbed shaft.

DRAKENA



DG 2183

Item no.	Dimension	Head Ø	Price per kilogram	Package contents
6227325	2.8 x 25 mm	5.6 mm	•	1
6227330	2.8 x 30 mm	5.6 mm	•	1

Assembly support

Application: Assembly supports are used to clamp plasterboards, wooden boards, wooden battens, profiles, substructures and much more for overhead assemblies.

Properties: Telescopic to 3.5 m.

Item no.	Price per piece	Package contents
62543	•	1



**General building chemistry,
PU foams and sealants,
adhesives**

FAKKT PU pro gun foam XL Ultra 750 1-component

FAKKT

Application: FAKKT XL Ultra 750 PU gun foams are used to install and foam door and window frames, joints and cavities, wall or pipe openings. For installing insulation material and much more.

Properties: The FAKKT XL Ultra 750 is a 1-component polyurethane foam. Cans with screw thread. Adheres to almost all substrates that are found in construction except PE, PP and PTFE. Only minimal post-elongation once curing has been completed. Can be plastered, painted and bonded over once curing has been completed. High insulation rating, stable in shape, low shrinkage <3%, silicone free, solvent free, aging resistant, does not rot. Precise and economical dispensing when using the FAKKT application gun. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102. High sound insulation rating - test certificate ift Rosenheim. Color: gray.

Technical information:

Curing system: Curing by air humidity.

Curing speed*: approx. 30 minutes for 30 mm of foam strand

Free of adhesive on the surface*: approx. 8 minutes for 30 mm of foam strand

Can be despread*: approx. 2 hours for 30 mm foam strand

Can be cut*: approx. 40 minutes for 30 mm of foam strand

Fully loadable*: approx. 12 hours for 30 mm foam strand

Foam yield*: approx. 65 l per liter free-foam

Temperature resistance: - 40 °C to +90 °C (1 h to 120 °C) processing temperature:

+5 °C to +35 °C (adhesive surface temperature)

Usable life: 18 months after production date in cold and dry storage

*) measured at 20 °C and 65% RH

Advantages:

- novel formula makes the same yield possible as with 750 ml cans
- opened gun foams remain dispensable throughout the entire shelf-life

Note: To prevent residual foam in the gun from curing, we recommend replacing empty cans with new foam cans as soon as possible after removal and cleaning the entire cycle with Soudal gun foam cleaner prior to longer interruptions.

PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.



Item no.	Contents	Price per piece	Price per piece from 12 pieces	Package contents
624844	500 ml	•	•	1

Item accessories

Item no.	Description	Price
624901	Soudal application gun for PU gun foams	•

FAKKT PU gun foam 1-component

FAKKT

Application: FAKKT PU gun foams are used to install and foam door and window frames, joints and cavities and wall or pipe openings. For installing insulation material and much more.

Properties: The FAKKT gun foam is a 1-component polyurethane foam. Cans with screw thread. Adheres to almost all substrates that are found in construction except PE, PP and PTFE. Only minimal post-elongation once curing has been completed. Can be plastered, painted and bonded over once curing has been completed. High insulation rating, stable in shape, low shrinkage <3%, silicone free, solvent free, aging resistant, does not rot. Precise and economical dispensing when using the FAKKT application gun. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102. High sound insulation rating - test certificate ift Rosenheim. Color: yellow (champagne).

Technical information:

Curing system: Curing by air humidity.

Curing speed*: approx. 30 minutes for 30 mm of foam strand

Free of adhesive on the surface*: approx. 8 minutes for 30 mm of foam strand

Can be despread*: approx. 2 hours for 30 mm foam strand

Can be cut*: approx. 40 minutes for 30 mm of foam strand

Fully loadable*: approx. 12 hours for 30 mm foam strand

Foam yield*: approx. 45 l per liter free-foam

Temperature resistance: -40 °C to +90 °C (1 h to 120 °C) processing temperature:

+5 °C to +35 °C (adhesive surface temperature)

Usable life: 18 months after production date in cold and dry storage

*) measured at 20 °C and 65% RH

Advantage:

- opened gun foams remain dispensable throughout the entire shelf-life

Note: To prevent residual foam in the gun from curing, we recommend replacing empty cans with new foam cans as soon as possible after removal and cleaning the entire cycle with Soudal gun foam cleaner prior to longer interruptions.

PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.



Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624841	750 ml	Can	•	•	1

Item accessories

Item no.	Description	Price
624901	Soudal application gun for PU gun foams	•

Soudal PU gun foam CLICK & FIX

Application: Soudal Click & Fix PU gun foams are used to install and foam door and window frames, joints and cavities and wall or pipe openings. For installing insulation material and much more.

Properties: The Soudal Click & Fix gun foam is a 1-component polyurethane foam. Cans with bayonet connection. Adheres to almost all substrates that are found in construction except PE, PP and PTFE. Only minimal post-elongation once curing has been completed. Can be plastered, painted and bonded over once curing has been completed. High insulation rating, stable in shape, low shrinkage <3%, silicone-free, solvent-free, aging resistant, does not rot, waterproof, but not watertight. Precise and economical dispensing when using the FAKKT application gun. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102. High sound insulation rating - test certificate ift Rosenheim. Color: yellow (champagne).

Technical information:

Curing system: Curing by air humidity.

Curing speed*: approx. 30 minutes for 30 mm of foam strand

Free of adhesive on the surface*: approx. 8 minutes for 30 mm of foam strand

Can be despread*: approx. 2 hours for 30 mm foam strand

Can be cut*: approx. 40 minutes for 30 mm of foam strand

Fully loadable*: approx. 12 hours for 30 mm foam strand

Foam yield*: approx. 45 l per liter free-foam

Temperature resistance: - 40 °C to +90 °C (1 h to 120 °C) processing temperature:

+5 °C to +35 °C (adhesive surface temperature)

Usable life: 18 months after production date in cold and dry storage

*) measured at 20 °C and 65% RH

Advantages:

- fast can replacement with Click & Fix
- bayonet connection
- opened gun foams remain dispensable throughout the entire shelf-life

Note: To prevent residual foam in the gun from curing, we recommend replacing empty cans with new foam cans as soon as possible after removal and cleaning the entire cycle with Soudal gun foam cleaner prior to longer interruptions.

PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.

SOUDAL


Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624842	750 ml	Can	•	•	1

Item accessories

Item no.	Description	Price
6249013	Soudal application gun for PU gun foams	•

Soudal PU Flexifoam gun foam



Application: FAKKT PU gun foams are used to install and foam door and window frames, joints and cavities and wall or pipe openings where structural movements occur.

Properties: The Soudal Flexifoam is a highly flexible 1-component polyurethane foam. 3 x more flexible than conventional installation foam. Permanent absorption of 50% structural movement (10% elongation and 40% compression). Cans with screw thread. Adheres to almost all substrates that are found in construction except PE, PP and PTFE. Only minimal post-elongation once curing has been completed. Can be plastered, painted and bonded over once curing has been completed. High insulation rating, stable in shape, low shrinkage <5%, silicone-free, solvent-free, aging resistant, does not rot. Precise and economical dispensing when using the FAKKT application gun. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102. High sound insulation rating - test certificate ift Rosenheim. Color: blue.

Technical information:

Curing system: Curing by air humidity

Curing speed:* approx. 30 minutes for 30 mm of foam strand

Free of adhesive on the surface:* approx. 6 minutes for 30 mm of foam strand

Can be despread* approx. 1 hour for 30 mm foam strand

Can be cut:* approx. 20 minutes for 30 mm of foam strand

Fully loadable:* approx. 12 hours for 30 mm foam strand

Foam yield:* approx. 35 l per liter free-foam

Temperature resistance: -40 °C to +90 °C (1 h to 120 °C)

Processing temperature: +5 °C to +35 °C (adhesive surface temperature)

Usable life: 18 months after production date in cold and dry storage

*) measured at 20 °C and 65% RH

Advantages:

- absorbs strong structural movements permanently and sustainably, thus avoiding foam cracks and associated reduced thermal and sound insulation as well as water penetration
- opened gun foams remain dispensable throughout the entire shelf-life

Note: To prevent residual foam in the gun from curing, we recommend replacing empty cans with new foam cans as soon as possible after removal and cleaning the entire cycle with Soudal gun foam cleaner prior to longer interruptions.

PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.



Item no.	Contents	Price per piece	Price per piece from 12 pieces	Package contents
624849	750 ml	•	•	1



FAKKT SP70 Foam Gun for PU Foams

Application: The FAKKT SP70 guns are used to dispense from PU gun foam cans.

Properties: The FAKKT SP70 guns stand out with their low weight yet very high stability. The guns are additionally sealed at particularly critical points (foam inlet and outlet) with new soft sleeves. Adapter and valve are fully non-stick coated.

Advantages:

- novel Soft-Sleeves seals
- new precise dosage system
- easy and uniform venting

FAKKT



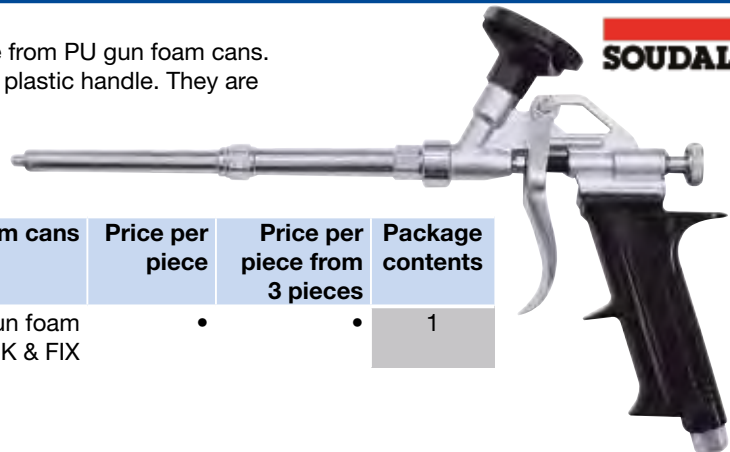
Item no.	Type	for PU foam cans	Price per piece	Package contents
6249022	with screw thread	K&K item no. 624841, 624844, 624847.624849	•	1

Soudal application gun for PU gun foams

Application: The Soudal design guns are used to dispense from PU gun foam cans.

Properties: High-quality, stable design made of metal with plastic handle. They are coated with PTFE on the inside. They prevent dripping.

SOUDAL



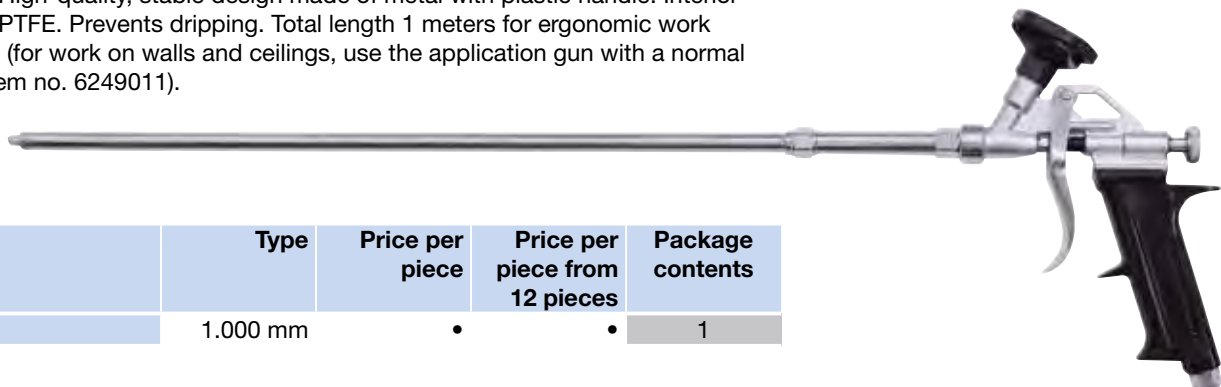
Item no.	Type	for PU foam cans	Price per piece	Price per piece from 3 pieces	Package contents
6249013	with bayonet connection	PU gun foam CLICK & FIX	•	•	1

Metal application gun, long application tube

Application: These guns with a long tube are used to apply PU insulation foam for applications on flat roofs.

Properties: High-quality, stable design made of metal with plastic handle. Interior coated with PTFE. Prevents dripping. Total length 1 meters for ergonomic work on flat roofs. (for work on walls and ceilings, use the application gun with a normal length tube item no. 6249011).

SOUDAL



Item no.	Type	Price per piece	Price per piece from 12 pieces	Package contents
6249018	1.000 mm	•	•	1

Soudal gun foam cleaner

Application: Soudal gun foam cleaners are used for cleaning the inside and outside of the application guns as well as for removing non-cured PU foam.

Properties: Fast-acting cleaner based on acetone.

Note: Twist foam cans onto application guns, wait a few seconds for it to take effect and then squeeze the gun lever until no more foam escapes.



Item no.	Type	suitable for	Contents	Price per piece	Price per piece from 12 pieces	Package contents
624951	with screw thread	Application gun for PU gun foams with screw thread connection	500 ml	•	•	1
624952	with bayonet connection	Application gun for PU gun foams with bayonet connection	500 ml	•	•	1

FAKKT PU installation foam 1-component

Application: FAKKT PU installation foams are used to install and foam door and window frames, joints and cavities and wall or pipe openings. For installing insulation material and much more.

Properties: The FAKKT installation foam is a 1-component polyurethane foam. Adheres to almost all substrates that are found in construction except PE, PP and PTFE. Only minimal post-elongation once curing has been completed. Can be plastered, painted and bonded over once curing has been completed. High insulation rating, stable in shape, low shrinkage <3%, silicone-free, solvent-free, aging resistant, does not rot. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102. High sound insulation value. Color: yellow (champagne).

Technical information:

Curing system: Curing by air humidity

Curing speed:* approx. 90 minutes for 30 mm of foam strand

Free of adhesive on the surface:* approx. 20 minutes for 30 mm of foam strand

Can be despread* approx. 3 hours for 30 mm foam strand

Can be cut:* approx. 3 hours for 30 mm foam strand

Fully loadable:* approx. 24 hours for 30 mm foam strand

Foam yield:* approx. 45 l per liter free-foam

Temperature resistance: -40 °C to +90 °C (1 h to 120 °C)

Processing temperature: +5 °C to +30 °C (adhesive surface temperature)

Usable life: 12 months after production date in cold and dry storage.

*) measured at 20 °C and 65% RH

Note: PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.



Item no.	Contents	Pack unit	Contents	Price per piece	Price per piece from 12 pieces	Package contents
62483	500 ml	Can	500 ml	•	•	1

Soudal PU B1 foam 1-component - hardly flammable

Application: Soudal B1 PU installation foams are used for insulation as well as for fastening building components that need to comply with fire protection class B1.

Properties: The Soudal B1 installation foam is a 1-component polyurethane foam. Hardly flammable in compliance with building material class B1. Adheres to almost all building substrates (except PE, PP, PTFE and silicone). Stable in shape, no shrinkage, only minimal post-elongation. Can be plastered and painted over. Silicone-free, solvent-free, aging resistant, does not rot. Waterproof but not watertight. Not UV-resistant. Color: blue.

Technical information:

Curing system: Curing by air humidity

Curing speed:* approx. 90 minutes for 30 mm of foam strand

Free of adhesive on the surface:* approx. 25 minutes for 30 mm of foam strand

Can be despread* approx. 3 hours for 30 mm foam strand

Can be cut:* approx. 3 hours for 30 mm foam strand

Fully loadable:* approx. 24 hours for 30 mm foam strand

Foam yield:* approx. 40 l per liter free-foam

Temperature resistance: -40 °C to +90 °C (1 h to 120 °C)

Processing temperature: +5 °C to +35 °C (adhesive surface temperature)

Usable life: 12 months after production date in cold and dry storage.

*) measured at 20 °C and 65% RH

Note: PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.

SOUDAL



Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624832	750 ml	Can	•	•	1

Soudal PU well and fountain foam

Application: Watertight Soudal well and fountain foams are used to seal fountains, well rings and house connections.

Properties: The Soudal fountain foam is a 1-component polyurethane foam. Watertight up to 0.5 bar. Replaces cementing well rings, resulting in high time-savings. Adheres to almost all building substrates (except PE, PP, PTFE and silicone). Stable in shape, no shrinkage. Only minimal post-elongation. Can be plastered and painted over. Silicone-free, solvent-free, aging resistant, does not rot. Resistant to a variety of solvents, oil, gasoline, chemicals, many acids and to all bacteria that normally occur in the soil. Not UV-resistant. Color: yellow (champagne).

Technical information:

Curing system: Curing by air humidity

Curing speed:* approx. 90 minutes for 30 mm of foam strand

Free of adhesive on the surface:* approx. 25 minutes for 30 mm of foam strand

Can be cut:* approx. 3 hours for 30 mm foam strand

Fully loadable:* approx. 24 hours for 30 mm foam strand

Foam yield:* approx. 35 l per liter free-foam

Temperature resistance: -40 °C to +90 °C (1 h to 120 °C)

Processing temperature: +5 °C to +35 °C (adhesive surface temperature)

Usable life: 12 months after production date in cold and dry storage.

*) measured at 20 °C and 65% RH

Advantage:

- enormous time savings and therefore cost savings compared to the conventional way of cementing well rings

Note: Do not remove overflowing foam because otherwise the surface is destroyed and there will no longer be a seal.

PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.

SOUDAL



Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624833	750 ml	Can	•	•	1

Soudal PU quick set pro frame foam 2 K plus



Application: 2-component Soudal PU pro frame foams are mainly used to fasten door frames extremely quickly as well as to bond windowsills and staircase steps.

Properties: The Soudal quick set pro foam is a 2-component polyurethane foam. Very quick, compression and tension free curing regardless of air humidity. Adheres to almost all substrates that are found in construction except PE, PP and PTFE and silicone. No shrinkage and post-elongation once curing has been completed. Silicone-free, propellant-free, solvent-free, aging resistant, does not rot, can be plastered and painted over once curing has been completed. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102. Color: yellow (champagne).

Technical information:

Curing system: Curing by chemical reaction

Free of adhesive on the surface:* approx. 1 minute for 30 mm of foam strand

Can be despread* approx. 20 minutes for 30 mm of foam strand

Can be cut:* approx. 5 minutes for 30 mm of foam strand

Foam yield:* approx. 5.5 l per 210 ml

Temperature resistance: -40 °C to +90 °C (1 h to 120 °C)

Processing temperature: +10 °C to +30 °C

Usable life: 9 months after production date in cold and dry storage.

*) measured at 20 °C and 65% RH

Advantage:

- cures extremely quickly regardless of air humidity

Note: PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.



Item no.	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624861	210 ml	Double cartridge	•	•	1

Item accessories

Item no.	Description	Price
624905	Application gun for quick set PU foam	•

FAKKT silicone N-oxime

FAKKT

Application: FAKKT N silicones are used to seal building and construction joints, for attachment joints on construction elements made of wood, metal and plastic, for expansion joints of different materials as well as for all glazing applications in construction with the exception of seals with edge compound (see the note below).

Properties: FAKKT N silicone is a neutral curing, permanently elastic sealing compound based on polysiloxane (oxime). For all building substrates except natural stone, acrylic glass, PP, PE and PTFE. For indoor and outdoor applications. Can also be used on problematic substrates such as copper and stainless steel. Suitable for all expansion joints up to 25%. Low in odor, colorfast, weather and UV-resistant. Fire protection class B2 - test certificate DIN 4102.

Technical information:

Base 1 K polysiloxane oxime

Skin formation:* approx. 5 minutes

Curing speed*: approx. 2 mm within the first 24 hours

Maximum deformation: 25%

Resilience: >80%

Elongation at break: 800%

Temperature resistance: -60 °C to +120 °C

Usable life: 12 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH

Note: It is not permissible to use the N oxime silicone for glazing applications with edge compound (glass/frame sealing). For such applications we recommend our pro N silicone.

For problematic substrates such as acrylic glass and natural stone, we recommend Soudal AL (acrylic glass) and MA (marble and other natural stone) silicones.



Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624911	white	310 ml	Cartridge	•	•	1
624912	gray	310 ml	Cartridge	•	•	1
624913	brown	310 ml	Cartridge	•	•	1
624914	transparent	310 ml	Cartridge	•	•	1
624915	black	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624901	Application gun HPS 400 K	•

Soudal silicone N-oxime in hose bag

Application: N silicones are used to seal building and construction joints, for attachment joints on construction elements made of wood, metal and plastic, for expansion joints of different materials as well as for all glazing applications in construction with the exception of seals with edge compound (see the note below).

Properties: Neutral curing, permanently elastic sealing compound based on polysiloxane (oxime). For all building substrates except natural stone, acrylic glass, PP, PE and PTFE. For indoor and outdoor applications. Can also be used on problematic substrates such as copper and stainless steel. Suitable for all expansion joints up to 25%. Low in odor, colorfast, weather and UV-resistant. Fire protection class B2 - test certificate DIN 4102.

Technical information: Base 1 K polysiloxane oxime

Skin formation*: approx. 5 minutes

Curing speed*: approx. 2 mm within the first 24 hours

Maximum deformation: 25%

Resilience: >80%

Elongation at break: 800%

Temperature resistance: -60 °C to +120 °C

Usable life: 12 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH

Note: It is not permissible to use the N oxime silicone for glazing applications with edge compound (glass/frame sealing). For such applications we recommend our pro N silicone.

For problematic substrates such as acrylic glass and natural stone, we recommend Soudal AL (acrylic glass) and MA (marble and other natural stone) silicones.



Soudal

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624941	transparent	600 ml	Hose bag	•	•	1
624942	white	600 ml	Hose bag	•	•	1
624943	gray	600 ml	Hose bag	•	•	1

Item accessories

Item no.	Description	Price
62492	Application gun HPS 600 A	•

Soudal Silirub Pro N Glazing Silicone



Application: Soudal Pro N silicones are used to seal building and structural joints, for attachment joints on building components made of wood, metal and plastic, for expansion joints made of different materials, for butt joint seals between bordering glazing elements (weather sealing), as well as for all glazing work in construction. Also for glass/frame seals in conjunction with coated wood, anodized aluminum and hard PVC after consultation with the manufacturer (see the note below).

Properties: The Soudal Pro-N silicone is a very high-quality, neutral curing, permanently elastic sealing compound based on polysiloxane (oxime). For all common building substrates. Acrylic glass and safety glass after consultation with the manufacturer. For indoor and outdoor applications. Also suitable for problematic substrates such as copper and stainless steel. Thanks to the fungicidal design, the Pro N can also easily be used in sanitary spaces. Not suitable for natural stone, PP, PE, PTFE and bonded all-glass facades. Solvent-free, low in odor, colorfast, weather and UV-resistant. Corresponds to the building construction DIN 18545 part 2. Fire protection class B2 - test certificate DIN 4102.

Technical information: Base 1 K polysiloxane oxime.

Skin formation:* approx. 7 minutes

Curing speed:* approx. 2 mm within the first 24 hours

Maximum deformation: 25%

Resilience: >90%

Elongation at break: 800%

Temperature resistance: -60 °C to +180 °C

Usable life: 18 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH

Advantages:

- neutral silicone equipped with fungicide
- window sealing in new buildings can no longer get moldy

Note: Compatibility in the system is to be ensured when used as glass/frame adhesive as well as for weather sealing. Prior consultation with the sealant manufacturer is absolutely necessary. Tell us the type of glass and also the glass manufacturer if possible. We will then inform you if there is an approval available from the sealant manufacturer. For problematic substrates such as acrylic glass and natural stone, we recommend Soudal AL (acrylic glass) and MA (marble and other natural stone) silicones.



Item no.	Color	Contents	Price per piece	Price per piece from 15 pieces	Package contents
628721	transparent	310 ml	•	•	1
628722	white	310 ml	•	•	1
628723	gray	310 ml	•	•	1
628724	aluminum gray	310 ml	•	•	1
628725	brown	310 ml	•	•	1
628727	black	310 ml	•	•	1

Item accessories

Item no.	Description	Price
624903	Soudal SQ application gun	•
62490	Soudal application gun H 40	•
62484	Soudal primer	•
624945	Soudal silicone remover	•

Soudal Silirub Pro N Glazing Silicone in a tubular bag



Application: Pro N silicones are used to seal building and structural joints, for attachment joints on building components made of wood, metal and plastic, for expansion joints made of different materials, for butt joint seals between bordering glazing elements (weather sealing), as well as for all glazing work in construction. Also for glass/frame seals in conjunction with coated wood, anodized aluminum and hard PVC after consultation with the manufacturer.

Properties: Very high-quality, neutral curing, permanently elastic sealing compound based on polysiloxane (oxime). For all common building substrates. Acrylic glass and safety glass after consultation with the manufacturer. For indoor and outdoor applications. Also suitable for problematic substrates such as copper and stainless steel. Thanks to the fungicidal design, the Pro N can also easily be used in sanitary spaces. Not suitable for natural stone, PP, PE, PTFE and bonded all-glass facades. Solvent-free, low in odor, colorfast, weather and UV-resistant. Corresponds to the building construction DIN 18545 part 2. Fire protection class B2 - test certificate DIN 4102.

Technical information: Base 1 K polysiloxane oxime

Skin formation:* approx. 7 minutes

Curing speed:* approx. 2 mm within the first 24 hours

Maximum deformation: 25%

Resilience: >90%

Elongation at break: 800%

Temperature resistance: -60 °C to +180 °C

Usable life: 18 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH

Advantages:

- neutral silicone equipped with fungicide
- window sealing in new buildings can no longer get moldy

Note: Compatibility in the system is to be ensured when used as glass/frame adhesive as well as for weather sealing. Prior consultation with the sealant manufacturer is absolutely necessary. Tell us the type of glass and also the glass manufacturer if possible. We will then inform you if there is an approval available from the sealant manufacturer. The Pro N silicone is not suitable for bonded all-glass facades. For problematic substrates such as acrylic glass and natural stone, we recommend Soudal AL (acrylic glass) and MA (marble and other natural stone) silicones.



Item no.	Color	Contents	Price per piece	Price per piece from 12 pieces	Package contents
628731	transparent	600 ml	•	•	1
628732	white	600 ml	•	•	1

Item accessories

Item no.	Description	Price
62492	Application gun HPS 600 A	•

FAKKT sanitary silicone e-acetate

Application: FAKKT E sanitary silicones are used to seal joints for sanitary purposes, in kitchens and cold storage rooms.

Properties: The FAKKT E silicone is an acetic curing, permanently elastic sealing compound based on polysiloxane acetate. For all building substrates, for ceramic, porcelain, enamel (except PVC, PP, PE, PTFE). Due to its acidic properties, copper, lead, brass, zinc or iron can be affected. Suitable for all expansion joints up to 25%. Colorfast and UV-resistant. Prevents fungal growth.

Technical information: Base 1 K polysiloxane acetate.

Skin formation:* approx. 7 minutes

Curing speed:* approx. 2 mm within the first 24 hours

Maximum deformation: 25%

Resilience: >90%

Elongation at break: 500%

Temperature resistance: -60 °C to +200 °C

Usable life 12 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH


FAKKT

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624871	transparent	310 ml	Cartridge	•	•	1
624872	white	310 ml	Cartridge	•	•	1
624873	gray	310 ml	Cartridge	•	•	1
624874	brown	310 ml	Cartridge	•	•	1
624876	manhattan	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624901	Application gun HPS 400 K	•

FAKKT acrylic

Application: FAKKT acrylic sealants are used to seal lightly loaded, static connection joints and cracks between masonry and door or window framing or other building components as well as to seal panel joints, metal seams or panel overlaps.

Properties: FAKKT acrylic is a plasto-elastic sealant on an acrylate dispersion basis. Solvent and silicone-free. Colorfast, weather and UV-resistant. Waterproof after curing. Cannot be processed in rainy or frosty conditions. Do not expose to constant moisture and UV radiation. Can be painted after curing completely. Can be plastered and papered over. Suitable for many substrates common in construction (except for glass, ceramics, natural stone and corrosive metals).

Technical information: Acrylic dispersion base.

Skin formation:* Surface dry after approx. 20 minutes

Maximum deformation: 10%

Temperature resistance: -20 °C to +80 °C

Usable life: 12 months after production date in cold and dry storage

*) measured at 23 °C / 50% RH

Note: Do not process FAKKT acrylic in rainy or frosty conditions and do not expose it to permanent moisture and UV radiation.


FAKKT

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624881	white	310 ml	Cartridge	•	•	1
624882	gray	310 ml	Cartridge	•	•	1
624883	black	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624901	Application gun HPS 400 K	•

Soudal acrylic in hose bag

Application: Soudal acrylic sealants are used to seal lightly loaded, static connection joints and cracks between masonry and door or window framing or other building components as well as to seal panel joints, metal seams or panel overlaps.

Properties: Soudal acrylic is a plasto-elastic sealant on an acrylate dispersion basis. Solvent and silicone-free. Colorfast, weather and UV-resistant. Waterproof after curing. Do not handle in case of rain or frost. Do not expose to constant moisture and UV radiation. Can be painted after curing completely. Can be plastered and papered over. Suitable for many substrates common in construction (except for glass, ceramics, natural stone and corrosive metals). **Technical information:** Acrylic dispersion base.

Skin formation:* Surface dry after approx. 20 minutes

Maximum deformation: 10%

Temperature resistance: -20 °C to +80 °C

Usable life: 12 months after production date in cold and dry storage

*) measured at 23 °C / 50% RH

Note: Do not process Soudal acrylic in rainy or frosty conditions and do not expose it to permanent moisture and UV radiation.



Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624981	white	600 ml	Hose bag	•	•	1

Item accessories

Item no.	Description	Price
62492	Application gun HPS 600 A	•

Soudal universal adhesive and sealant Fix ALL

Application: The adhesive and sealant Soudal Fix All Classic is very compatible with all joints and suitable for many kinds of adhesive work arising from construction. Main application areas include tension-free structural bonding between metals, plastics (except PE, PP, PTFE and silicones) and hardwood, sealing and bonding vibrating structures as well as seals and adhesive connections in car body, container, and equipment construction.

Properties: The Soudal Fix ALL Classic is a neutral cure, permanently elastic adhesive and sealing compound on a hybrid polymer basis. Outstanding adhesion on almost all common building materials and substrates such as various metals, concrete, masonry, natural stone, ceramic, glass, various plastics (except PE, PP, PTFE and silicone) polystyrene foam, cork, wood, mirrors with back covers coated in acetone and much more. Also suitable for moist substrates. Even adheres under water. Silicone and solvent-free. Colorfast, weather and UV-resistant. Almost odorless. Very compatible with paint. Without plasticizers. High elasticity and therefore very well suited for materials with different expansion properties. Very high initial adhesion and end load (see technical information).

Technical information: 1 K hybrid polymer base.

Initial adhesion:** pure tensile force, dependent on material approx. 7 kg/cm²

End load:** pure tensile force, dependent on material, once fully cured after 20 to 25 hours approx. 20 kg/cm²

Skin formation:* approx. 10 minutes

Curing speed:* approx. 2 - 3 mm within the first 24 hours

Maximum deformation: 20%. resilience >75%. Elongation at break 750%

Temperature resistance: -40 °C to +90 °C. Usable life 12 months after production date in cold and dry storage

*) measured at 23 °C / 50% RH

**) Fix ALL transparent (crystal) has a slightly different composition, does not cure as quickly and has slightly lower initial and end loads than the other colors.

Advantages:

- the Fix ALL adhesive and sealing compound is extraordinarily versatile and replaces a large number of sealing compounds and building adhesives
- reduces storage and procurement costs as a result



SOUDAL

Item no.	Color	Contents	Price per piece	Price per piece from 12 pieces	Package contents
624891	white	290 ml	•	•	1
624892	gray	290 ml	•	•	1
624893	brown	290 ml	•	•	1
624896	transparent*	290 ml	•	•	1

Item accessories

Item no.	Description	Price
624901	Application gun HPS 400 K	•

Soudal Fix ALL High Tack power adhesive

Application: The Soudal Fix ALL High Tack power adhesive is used for dynamically stressed, structural adhesive joints where a high initial load is required. Main application areas are adhesive and sealing applications in the construction and metal industries, especially for vibrating connections.

Properties: The Soudal Fix ALL High Tack is a 1-component, permanently elastic adhesive on a hybrid polymer basis. Outstanding adhesion on almost all common building materials and substrates such as various metals, concrete, masonry, ceramic, glass, various plastics (except PE, PP, PTFE and silicone) polystyrene foam, cork, wood, mirrors with back covers coated in acetone and much more. Also suitable for moist substrates. Even adheres under water. Silicone and solvent-free. Colorfast, weather and UV-resistant. Almost odorless. Very compatible with paint. Fire protection class B2 - test certificate DIN 4102.

Technical information:

1 K hybrid polymer base.

Initial adhesion, pure tensile force, dependent on material 15 kg/cm².

End load, pure tensile force, dependent on material, once fully cured after 20 to 25 hours approx. 35 kg/cm². Skin formation* approx. 5 minutes.

Curing speed* approx. 3 mm within the first 24 hours.

Maximum deformation 20%. Resilience >75%. Elongation at break 400%.

Temperature resistance -40 °C to +90 °C.

Usable life 12 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH

Advantage:

- Ideal for overhead installations due to the very rapid and high initial load


Soudal

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624898	white	290 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
62490	Soudal application gun H 40	•

Soudal SOUDAFLEX 40 FC PU adhesive and sealing putty

Application: Soudal Soudaflex 40 FC adhesives/sealants are used for almost all sealing and adhesive applications in the construction and metal industries. Main application areas include structural connections in vibrating structures, elastic, tension-equalizing bonding and sealing in container, airplane, railway car or ship construction as well as sealing contraction joints in concrete floors that are open to foot and road traffic.

Properties: The Soudal Soudaflex 40 FC is a very high-quality, permanently elastic, 1-component adhesive/sealant on a polyurethane basis. Adheres to many substrates common in construction such as to most metals, many plastics (except for PP, PE, PTFE, polystyrene foam, silicone), wood, ceramics and much more Silicone-free, tension-equalizing, seawater-resistant, can be ground after curing, very compatible with paint. Not UV-resistant. Fire protection class B2 - test certificate DIN 4102.

Technical information:

1 K polyurethane base.

Skin formation:* approx. 15 minutes

Curing speed:* approx. 3 mm within the first 24 hours

Maximum deformation: 20%

Resilience: >80%

Elongation at break: 700%

Temperature resistance: -30 °C to +90 °C

Usable life: 12 months after production date in cold and dry storage

*) measured at 23 °C / 50% RH


Soudal

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
625001	white	310 ml	Cartridge	•	•	1
625002	gray	310 ml	Cartridge	•	•	1
625003	black	310 ml	Cartridge	•	•	1

Soudal AQUAFIX seal-all quick fix sealant

Application: The Soudal Aquafix seal-all is mainly used as repair putty for metals and roofing and for sealing gutters and downspouts, but also for sealing applications for chimney connections, roof membranes and much more.

Properties: Soudal Aquafix is a plasto-elastic 1-component sealant on a synthetic rubber basis. Adheres to almost all common building substrates such as concrete, aerated concrete, masonry, plaster, metal, brass, copper, ceramics, roof tiles, roof membranes and bitumen. Even adheres to wet, galvanized sheet metal and under water. 100% transparent, crystal clear, weather and UV-resistant. Very good resistance to mold growth. Silicone and solvent-free. Compatible with paint after curing, fire protection class B2-test certificate DIN 4102.

Technical information: 1 K synthetic rubber base.

Skin formation: Surface dry after approx. 20 minutes

Maximum deformation: 20%

Temperature resistance: -20 °C to +90 °C

Usable life: 12 months after production date in cold and dry storage



Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624922	transparent	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
62490	Soudal application gun H 40	•

Soudal SOUDAFALT roof sealant

Application: The Soudafalt roof sealant is mainly used for repair work in the roof area. For sealing cracks and seams, for bonding roofing felts and overlaps. For emergency repairs, even in the rain.

Properties: Soudal Soudafalt is a plasto-elastic 1-component sealant on a bitumen elastomer basis. Adheres to many of the common building substrates and to bituminous substrates. Also adheres in wet conditions and even under water. Higher liquid resistance. Suitable as a cold adhesive for all kinds of roofing felt. Smooths out unevenness. UV-resistant.

Technical information: 1 K bitumen elastomer base.

Skin formation: Surface dry after approx. 20 minutes

Maximum deformation: 10%

Temperature resistance: -35 °C to + 30 °C

Usable life: 12 months after production date in cold and dry storage



Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624921	black	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
62490	Soudal application gun H 40	•

Soudal fire protection silicone B1

Application: The Soudal B1 fire protection silicone is used for seals on building components that need to comply with fire protection class B1. Main application areas include fire protection joints in escape routes or emergency staircases, partitions, elevator shafts, pipe penetrations, smoke flaps and much more.

Properties: The Soudal B1 is a soft-elastic 1-component, hardly flammable sealant on a silicone basis. Adheres to common building substrates (except PP, PE, PTFE and silicone). Colorfast, aging and UV-resistant. Hardly flammable in compliance with fire protection class B1- test certificate DIN 4102.

Technical information: 1 K polysiloxane benzamide base.

Skin formation: approx. 15 minutes.

Curing speed: 1 mm within the first 24 hours.

Maximum deformation: 25%.

Resilience: >90%.

Elongation at break: 550%.

Temperature resistance: -40 °C to +140 °C.

Usable life: 9 months after production date in cold and dry storage.


SODAL

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624972	gray	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624903	Soudal SQ application gun	•

Soudal high temperature silicone HT-N

Application: The Soudal HT-N high-temperature silicone is used for adhesive and sealing applications that are constantly exposed to high temperatures. Main application areas include boilers, heating channels, ovens, ceramic hotplates, chimneys, pumps or engines.

Properties: The Soudal HT-N high-temperature silicone is a permanently elastic 1-component sealant on a silicone basis. Adheres to common metals, cast iron, glass and many plastics (except for PP, PE and PTFE). Colorfast, aging and UV-resistant. Fire protection class B2 - test certificate DIN 4102.

Technical information: Base 1 K polysiloxane oxime.

Skin formation: approx. 5 minutes

Curing speed: 2 mm within the first 24 hours

Maximum deformation: 15%

Resilience: >80%

Elongation at break: 500%

Temperature resistance: -60 °C to +280 °C

Usable life: 12 months after production date in cold and dry storage


SODAL

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
624976	black	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624903	Soudal SQ application gun	•

Soudal high temperature sealant Gasket Seal

Application: The Soudal Gasket Seal high temperature sealant is used for sealing applications in the engine compartment and in pumps as well as to form sealing rings of all shapes and sizes.

Properties: The Soudal Gasket Seal high temperature sealant is a permanently elastic, 1-component sealing compound on a silicone basis. Adheres to different metals, cast iron, glass and many plastics (except for PP, PE and PTFE). Resistant to high temperatures, colorfast, aging and UV-resistant. Good resistance to gasoline, diesel, oils, greases and antifreeze. Replaces solid seals. Also easy to remove after frequent use. Due to its acidic properties some materials such as copper, lead, brass, lead and zinc can be affected. Gasket Seal only has low adhesive strength and is not suitable for expansion joints. Fire protection class B 2 - test certificate DIN 4102.

Technical information: Base 1 K polysiloxane acetate.

Skin formation:* approx. 12 minutes

Curing speed: 2 mm within the first 24 hours

Resilience: >80%

Elongation at break: 500%

Temperature resistance: -60 °C to +285 °C

Usable life: 12 months after production date in cold and dry storage

*) measured at 23 °C / 50% RH


Soudal

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624971	red-brown	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
62490	Soudal application gun H 40	•

Soudal CALOFER high temperature putty

Application: The Soudal Calofer high temperature putty is used for sealing and repair applications on ovens, chimneys, boilers and many other areas where high temperatures arise.

Properties: Soudal Calofer is a 1-component, ready-to-use and extremely heat-resistant paste on a sodium silicate basis. Adheres to different metals, cast iron, masonry, concrete, glass and many plastics (except for PP, PE and PTFE). Extremely heat-resistant. Calofer has no approved deformation after curing and is therefore not suitable for expansion joints.

Technical information: 1 K sodium silicate base.

Temperature resistance: to +1.500 °C

Usable life: 12 months after production date in cold and dry storage


Soudal

Item no.	Color	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
62497	black	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
62490	Soudal application gun H 40	•

Soudal silicone remover

Application: The Soudal silicone remover is used to remove cured silicone from various substrates. Supports mechanical removal of old silicone joints.

Properties: The Soudal silicone remover is a stable gel-like compound that does not drip and has a pleasant citrus scent. Suitable for many of the common building substrates such as coated metals, aluminum, ceramic tiles, laminate, glass and some plastics (not nylon). Can leave stains on porous surfaces.

Technical information: Application time approx. 10 minutes. Consumption approx. 100 ml per 4 - 5 running meter.

SOUDAL



Item no.	Contents	Price per piece	Price per piece from 12 pieces	Package contents
624945	100 ml	•	•	1

Soudal primer

Application: The Soudal 150 primer is used as an adhesion enhancer and is mainly used for porous substrates and for expansion joint faces with increased exposure to water.

Properties: Soudal 150 primer is thin and enhances the adhesion of silicone and MS polymer sealants and porous substrates.

Technical information: Drying time approx. 60 minutes at +20 °C / 65% RH
Consumption approx. 5 l/m²

SOUDAL



Item no.	Contents	Price per piece	Price per piece from 6 pieces	Package contents
62484	1.000 ml	•	•	1

Soudal Soudabond Easy insulation adhesive

Application: The Soudal Soudabond Easy insulation adhesive is used for wind suction-resistant bonding of thermal insulation panels. Areas of application include flat roof*, perimeter and facade insulation*

* For each of the 3 main applications, there are different installation instructions or legal provisions. See the instructions section.

Properties: With Soudal Soudabond Easy insulation adhesive, rapid, economical, permanently secure and especially clean processing is possible. No electricity, no water, no drilling or screwing work, no mixing mortar necessary. Time savings of up to 30% are possible. High initial adhesion. High safety reserves, hardly flammable, solvent-free. Economical consumption because application is precise. Rapid curing (work can already continue after one hour). Adheres to almost all common building substrates (not to PP, PE, PTFE, silicones). Flexible, does not become brittle. Low post-expansion. Enormous weight reduction and space saving compared to conventional roofing adhesives or adhesive mortars. Does not rot, aging, mold and rot resistant. Waterproof but not watertight. Fire protection class B 1 - hardly flammable DIN 4102. Color: orange.

Technical information: Curing speed* approx. 30 minutes for 30 mm foam strand. Non-adhesive on the surface* approx. 8 minutes for 30 mm foam strand. Can be cut* approx. 50 minutes for 30 mm foam strand.

Fully loadable* approx. 12 hours for 30 mm foam strand. Temperature resistance -40 °C to +90 °C (1 h to 120 °C). Shelf-life 12 months after production date in cold and dry storage.

*) measured at 20 °C / 65% RH

Advantages:

- very high cost savings compared to conventional mineral adhesive mortars.
1 carton (12 cans) of Soudal insulation adhesive corresponds to the quantity of one pallet of adhesive mortar
- No electricity, no water, no drilling or screwing work, no mixing mortar necessary
- enormous storage, transport and application savings

Note: To prevent residual foam in the gun from curing, we recommend replacing empty cans with new foam cans as soon as possible after removal and cleaning the entire cycle with Soudal gun foam cleaner prior to longer interruptions.

PU foams contain isocyanate and we recommend using disposable latex gloves when processing non-cured foam.

Note regarding insulation adhesives when used as flat roof insulation and perimeter insulation (insulation of components in contact with the earth):

The insulation adhesive is an alternative to conventional bitumen adhesive. The content of the can is enough for approx. 14 m². Read the technical data sheet for the PU insulation adhesive from Soudal.

Note regarding insulation adhesives when used as facade insulation and basement ceiling insulation:

The insulation adhesive is curing for mortar adhesives. The content of the can is enough for approx. 7 m². Not for applications subject to approval. Bonding without mechanical fixing for ceiling insulation. Read the technical data sheet for the PU insulation adhesive from Soudal.

SOUDAL



Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624848	800 ml	Can	•	•	1

Item accessories

Item no.	Description	Price
6249018	Metal application gun, long application tube	•

Soudal assembly adhesive PS 50 A

Application: The Soudal 50A installation adhesive is used to bond different kinds of materials to buildings. Main application areas are light adhesive applications such as wall paneling, panels, skirting boards, PU hard foam trims, styrofoam or polystyrene, cable ducts and much more.

Properties: The Soudal 50A installation adhesive is a solvent-free adhesive on a dispersion basis. Adheres to many of the common building substrates such as metal, aluminum, concrete, masonry, aerated concrete, fiber cement, wood, PU hard foam, different plastics (except for PP, PE, PTFE, silicones and bitumen). One of the two surfaces should have suction. For substrates that do not have suction, there is less adhesion and a longer curing time. Solvent and silicone-free, odorless. Resistant to moisture after curing. Can be corrected after a few minutes. Can be painted over with water-based systems.

Technical information: Temperature resistance -20 °C to +60 °C.

Loadable after 24 - 48 hours.

Initial load approx. 50 kg/m² bonded across the entire surface.



SOUDAL

Item no.	Contents	Pack unit	Price per piece	Price per piece from 15 pieces	Package contents
62489	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624901	Application gun HPS 400 K	•

FAKKT PU construction adhesive

Application: The FAKKT PU construction adhesive is used to bond all common building elements to each other and to common substrates.

Properties: The FAKKT construction adhesive is a 1-component adhesive on a polyurethane basis. Can be used indoors and outdoors. High water resistance - class D4. Very high initial adhesion and end load. Silicone and solvent-free, aging resistant and chemical resistant to a large extent, can be painted over. Foams slightly during curing. Very good adhesion to metal, wood, concrete, masonry, natural stone, ceramic, hard foam, polystyrene foam, many plastics, coated boards, and much more. Sand, clean and slightly moisten plastics and metals. Color: beige.

Technical information: Skin formation: approx. 5 minutes

Curing speed: 1 - 2 mm/24 hours

Opening time: approx. 5 minutes

Press time: approx. 15 - 30 minutes

Tensile force: once curing is complete approx. 15 kg/cm² dependent on material.

Temperature resistance -35 °C to +80 °C

Usable life: 15 months after production date in cold and dry storage

Note: PU products contain isocyanate and we recommend using disposable latex gloves when processing non-cured material.



FAKKT

Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624895	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624903	Soudal SQ application gun	•

beko PU construction adhesive ALLCON

Application: The Allcon 10 PU construction adhesive is used to bond all common building elements to each other and to common substrates.

Properties: The Allcon 10 is a 1-component construction adhesive on a polyurethane basis. Can be used indoors and outdoors. High water resistance - class D4. Very high initial adhesion and end load. Silicone and solvent-free, aging resistant and chemical resistant to a large extent, can be painted over. Foams slightly during curing. Very good adhesion to metal, wood, concrete, masonry, natural stone, ceramic, hard foam, polystyrene foam, many plastics, coated boards, and much more. Sand, clean and slightly moisten plastics and metals.

Color: beige.

Technical information: Skin formation: approx. 3 minutes

Curing speed: 1 - 2 mm / 24 hours

Opening time: approx. 3 minutes

Press time: approx. 10 minutes

Tensile force: once curing is complete approx. 20 kg/cm² dependent on material.

Temperature resistance: -40 °C to +80 °C

Usable life: 18 months after production date in cold and dry storage

Note: PU products contain isocyanate and we recommend using disposable latex gloves when processing non-cured material.



Item no.	Contents	Pack unit	Price per piece	Price per piece from 12 pieces	Package contents
624894	310 ml	Cartridge	•	•	1

Item accessories

Item no.	Description	Price
624903	Soudal SQ application gun	•

Soudal Hybrid power adhesive 240 FC

Application: The Soudal 240 FC power adhesive is used as a universally applicable sealant and adhesive in the construction industry as well as in steel and metal construction sectors. Main application areas include tension-free adhesive joints between metals, plastics (except PP, PE, PTFE, silicones) and hardwood. Structural bonding of vibrating structures, sealing and adhesive applications in vehicle, railway car, container, ship or machine construction.

Properties: The Soudal 240 FC power adhesive is a high-quality, neutral, permanent elastic 1-component adhesive and sealing compound on a hybrid polymer basis. Outstanding adhesion on almost all common building materials and substrates such as various metals, brass, zinc, concrete, masonry, natural stone, glass, ceramics, enamel, various plastics (except PE, PP, PTFE and silicones), cork, polystyrene foam, hardwood and much more. Also suitable for moist substrates. Water- and seawater-resistant. Silicone and solvent-free. Colorfast, weather and UV-resistant. Compensates for material stresses. Almost odorless. Very compatible with paint. Fire protection class B2 - test certificate DIN 4102.

Technical information: 1 K hybrid polymer base. Skin formation* approx. 10 minutes.

Curing speed* approx. 2 - 3 mm within the first 24 hours.

Maximum deformation 20%. Resilience >75%. Elongation at break white -750% / transparent 250%. Temperature resistance -40 °C to +90 °C.

Usable life 12 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH



Item no.	Color	Contents	Price per piece	Price per piece from 12 pieces	Package contents
625112	transparent	290 ml	•	•	1
625111	white	290 ml	•	•	1

Item accessories

Item no.	Description	Price
62490	Soudal application gun H 40	•

Soudal Fix ALL Turbo construction adhesive

Application: The Soudal Fix All Turbo construction adhesive is used for demanding adhesive applications in construction where rapid adhesive strength development and speedy loading is required. Main application areas include tension-free bonding of metal structures, of attached parts to concrete, masonry or wood. In steel and metal construction as well as in the construction industry and in all secondary contract work.

Properties: The Soudal Fix All Turbo is a very high-quality, 1-component, permanently elastic construction adhesive on a SMX polymer basis. Very rapid adhesive strength development. Can already be fully loaded after 3 hours. High final strength. Outstanding adhesion on almost all common building materials and substrates such as various metals, concrete, masonry, glass, ceramic, various plastics (except PE, PP, PTFE and silicone) polystyrene foam, cork, wood and much more. Also suitable for moist substrates. Silicone and solvent-free. Colorfast, weather and UV-resistant. Almost odorless. Very compatible with paint. High elasticity and therefore very well suited for materials with different expansion properties. Fire protection class B2 - test certificate DIN 4102.

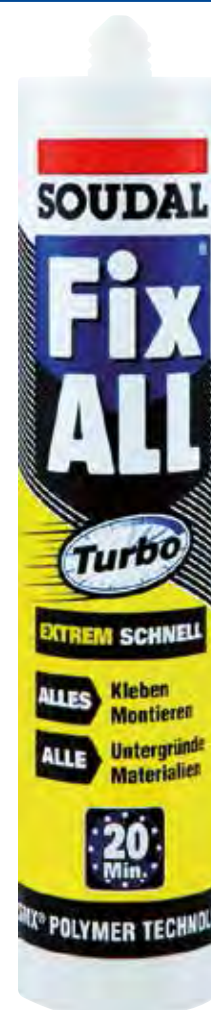
Technical information:

SMX polymer base. Can be corrected* approx. 5 minutes. Solid* after 20 minutes. Fully loadable* after 3 hours. End load*, pure tensile force, dependent on material, when fully cured after 3 hours approx. 38 kg/cm². Skin formation* approx. 5 minutes. Maximum deformation 20%. Resilience >75%. Elongation at break 200%. Temperature resistance -40 °C to +0 °C. Usable life 12 months after production date in cold and dry storage.

*) measured at 23 °C / 50% RH

Advantages:

- get back to work quickly thanks to very rapid handling strength and full loadability
- the Fix ALL construction adhesive Turbo is currently considered (as of summer 2012) to be the fastest curing and fully loadable MS polymer construction adhesive


SOUDAL

Item no.	Color	Contents	Price per piece	Price per piece from 12 pieces	Package contents
624899	white	290 ml	•	•	1

Soudal SQ application gun

Application: For dispensing from sealant and adhesive cartridges up to 310 ml.

Properties: Skeleton form, light design.


SOUDAL

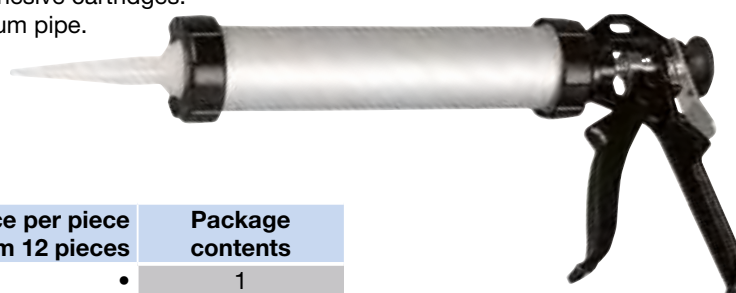
Item no.	for cartridges up to	Price per piece	Price per piece from 12 pieces	Package contents
624903	310 ml	•	•	1

Application gun HPS 400 K

Application: For applying 290/310 ml sealant and adhesive cartridges.

Properties: Closed shape, stable design with aluminum pipe.

Plastic screw connections.



Item no.	Price per piece	Price per piece from 12 pieces	Package contents
624901	•	•	1

MKT application gun VMP 300



Application: For dispensing from sealant and adhesive cartridges up to 310 ml. as well as for coaxial injection mortar cartridges up to 300 ml.

Properties: Very powerful metal design with open half-shell.



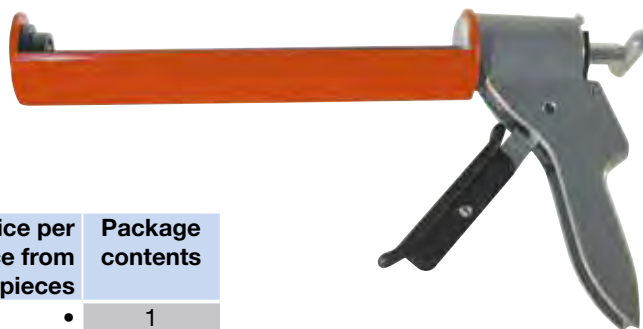
Item no.	Price per piece	Package contents
620355	•	1

Soudal application gun H 40



Application: For applying 290 ml and 310 ml sealant and adhesive cartridges.

Properties: Professional quality for heavy-duty use. Adjustable, reinforced transmission ratio and push-rod in an oil bath.

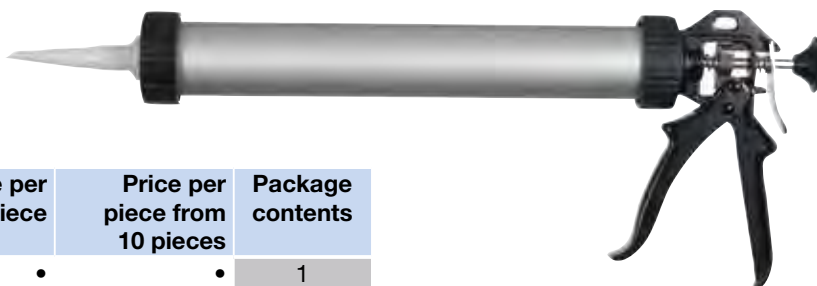


Item no.	for cartridges up to	Price per piece	Price per piece from 12 pieces	Package contents
62490	310 ml	•	•	1

Application gun HPS 600 A

Application: For dispensing from sealant hose bag up to 600 ml.

Properties: Closed shape, stable design with aluminum pipe. Plastic screw connections.



Item no.	for hose bag to	Price per piece	Price per piece from 10 pieces	Package contents
62492	600 ml	•	•	1

Compressed air application gun AG 31

Application: For applying 290 ml and 310 ml sealant and adhesive cartridges.

Properties: Light but robust compressed air cartridge application gun made of impact-resistant plastic. Air volume adjustable. Maximum working pressure 7 bar.



Item no.	Price per piece	Price per piece from 10 pieces	Package contents
62498	•	•	1

Compressed air application gun AG 60 B

Application: For dispensing from sealant hose bag up to 600 ml.
Properties: Light but robust compressed air hose bag application gun made of impact-resistant plastic. Air volume adjustable.
 Maximum working pressure 7 bar.



Item no.	Price per piece	Price per piece from 10 pieces	Package contents
62499	•	•	1

Replacement nozzles

Application: For sealant presses HPS 600K, AG 60B and AG 31.



Item no.	Price per piece	Price per piece from 10 pieces	Package contents
624920	•	•	1

Sopro Racofix quick assembly mortar 8700

Application: The Racofix 8700 quick assembly mortar is used to fill cracks, gaps and spaces, for fastening railings, ladders, clips, mortar anchors and much more as well as for sealing leaks in masonry and concrete pipes.

Properties: Cementitious installation mortar. Fast curing, anti-corrosive and water-tight. High bending and compressive strength. Low-chromate according to TRGS 613. Suitable for almost all clean, load-bearing, solid and mineral substrates in above-ground and underground construction.

Technical information: Processing temperature from +5 °C to max. +25 °C. Opening time approx. 3 - 5 minutes at +23 °C and 50% RH

Processing: Clean and pre-wet substrates. Mix one part water and 3 parts Racofix and immediately process. Do not process in frost conditions or on frozen substrates.

Sopro


Item no.	Contents	Price per piece	Package contents
625045	5 kg	•	1
6250415	15 kg	•	1

Item accessories

Item no.	Description	Price
617038	Plaster mixing bowl	•
61703360	Plaster spatula, stainless steel 60 mm	•

Soudal compri-joint tape acrylic 300

Application: Soudal acrylic 300 compribands are used for driving rain and windproof sealing of joints between window frames and masonry, for building joints in concrete, steel and wooden construction as well as for sealing applications on roofing and prefabricated house structures indoors and outdoors.

Properties: Soudal acrylic 300 compri-joint tapes are pre-compressed joint sealing tapes made of PUR flexible foam. Air and windproof at 50% compression, weather-proof, UV-resistant, can be painted over, self-adhesive on one side. Color: anthracite.

Technical information: Watertight under driving rain 300 Pa. Temperature resistance -20 °C to +100 °C. Fire protection class B2. Shelf-life 12 months after production date in unopened packaging in cold and dry storage.


SOUDAL

Item no.	Belt designation	for joint width	Roll length	Price per piece	Price per piece from 30 pieces	Package contents
62375102	10 x 2	2 - 3 mm	12.5 m	•	•	1
62375152	15 x 2	2 - 3 mm	12.5 m	•	•	1
62375153	15 x 3	3 - 5 mm	10 m	•	•	1
62375104	10 x 4	3 - 7 mm	8 m	•	•	1
62375154	15 x 4	3 - 7 mm	8 m	•	•	1
62375204	20 x 4	3 - 7 mm	8 m	•	•	1
62375156	15 x 6	5 - 9 mm	5.6 m	•	•	1
62375208	20 x 8	7 - 12 mm	4.3 m	•	•	1

Soudal compri-joint tape BG 1

Application: Compribands according to the BG1 duty group are used for the permeable, driving rain-proof, permanently elastic sealing of heavily loaded attachment joints outdoors. Main application areas include connection and expansion joints between window frames and masonry or facades as well as joints in building, timber house and prefabricated house construction.

Properties: Soudal BG1 compri-joint tapes are pre-compressed joint sealing tapes made of PUR flexible foam. Permeable, air and windproof at 50% compression, weatherproof, heat-insulating and noise-reducing, UV-resistant, can be painted over. Fulfills the En-EV and RAL directives. Self-adhesive on one side. Color: anthracite.

Technical information: Classification DIN 18542/ 2009 BG1- watertight under driving rain 600 Pa. Temperature resistance -30 °C to +90 °C. Sd value < 0.5 m for 50 mm width.

Fire protection class B1. Long-term resistance 10 years functional guarantee on the conditions of the manufacturer. Shelf-life 24 months after production date in unopened packaging in cold and dry storage.


SOUDAL


Item no.	Belt designation joint depth x recommended joint width	for joint width (watertight under driving rain)	Roll length	Price per piece	Price per piece from 30 pieces	Package contents
628461012	10/1-2 mm	1-2 mm	20 m	•	•	1
628461014	10/1-4 mm	1-4 mm	13 m	•	•	1
628461514	15/1-4 mm	1-4 mm	13 m	•	•	1
628461526	15/2-6 mm	2-6 mm	12 m	•	•	1
628461549	15/4-9 mm	4-9 mm	8 m	•	•	1
6284615512	15/5-12 mm	5-12 mm	5.6 m	•	•	1
6284615615	15/6-15 mm	6-15 mm	4.3 m	•	•	1
628462049	20/4-9 mm	4-9 mm	8 m	•	•	1
6284620512	20/5-12 mm	5-12 mm	5.6 m	•	•	1
6284620615	20/6-15 mm	6-15 mm	4.3 m	•	•	1
6284625920	25/9-20 mm	9-20 mm	3.3 m	•	•	1
6284630512	30/5-12 mm	5-12 mm	5.6 m	•	•	1

Multi-function joint sealing tape ISO-BLOCO One



Application: ISO BLOCO One multi-function tapes according to the BG1 duty group are used for the permeable, driving rain-proof, permanently elastic sealing of heavily loaded attachment joints outdoors. Main application areas include connection and expansion joints between window frames and masonry or facades as well as joints.

Properties: The ISO BLOCO One joint sealing tape is an "all in one tape", a one tape solution for 100% perfect window sealing. Uncomplicated and time-saving 3 level sealing (internally- airtight and vapor blocking / in the middle, thermal and noise-insulating / externally-1000 Pa watertight under driving rain). Optimal vapor diffusion gradient from inside to outside of 50:1 (Sd value gradient) extremely low a-value of zero. Suitable for passive houses. Fulfills the En-EV and RAL directives. Broad range of use for joints. Self-adhesive on one side. Color: black.

Technical information: Classification in stress group BG1 and BGR - watertight under driving rain 1.000 Pa.

Temperature resistance -30 °C to +80 °C. Vapor diffusion gradient 50:1.

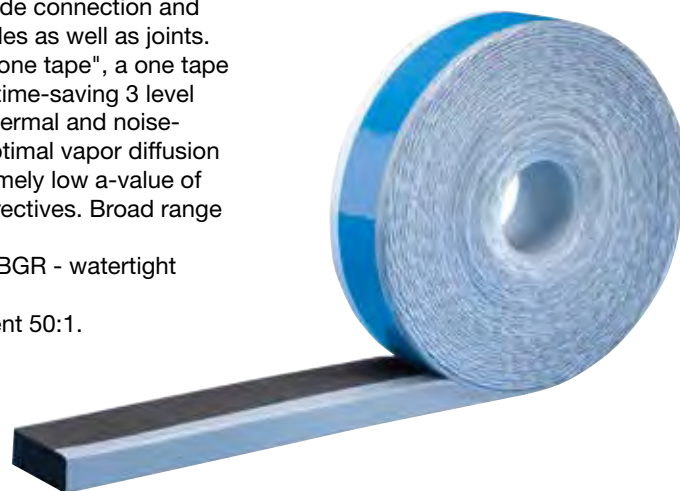
Joint permeability coefficient 0 m³ (a-value).

Fire protection class B1.

Shelf-life 12 months after production date in unopened packaging in cold and dry storage.

Advantages:

- 1 tape for all 3 levels resulting in higher cost and time savings
- the extremely low a-value of zero reduces the manufacture heat loss
- suitable for the high level of sealing in passive houses



Item no.	Belt designation	Window depth	Joint width	Roll length	Price per piece	Price per piece from 7 pieces	Package contents
6285654210	54/2-10	60 mm	2-10 mm	30 m	•	•	1
6285664210	64/2-10	70 mm	2-10 mm	30 m	•	•	1
6285674210	74/2-10	80 mm	2-10 mm	30 m	•	•	1
6285654212	54/2-12	60 mm	2-12 mm	30 m	•	•	1
6285664212	64/2-12	70 mm	2-12 mm	30 m	•	•	1
6285674212	74/2-12	80 mm	2-12 mm	30 m	•	•	1
6285682212	82/2-12	90 mm	2-12 mm	30 m	•	•	1
6285654315	54/3-15	60 mm	3-15 mm	20 m	•	•	1
6285664315	64/3-15	70 mm	3-15 mm	20 m	•	•	1
6285674315	74/3-15	80 mm	3-15 mm	20 m	•	•	1
6285654318	54/3-18	60 mm	3-18 mm	20 m	•	•	1
6285664318	64/3-18	70 mm	3-18 mm	20 m	•	•	1
6285674318	74/3-18	80 mm	3-18 mm	20 m	•	•	1
6285682318	82/3-18	90 mm	3-18 mm	20 m	•	•	1
6285664530	64/5-30	70 mm	5-30 mm	12 m	•	•	1
6285674530	74/5-30	80 mm	5-30 mm	12 m	•	•	1
6285682530	82/5-30	90 mm	5-30 mm	12 m	•	•	1

Window connection film, inside

Application: Window connection films are used to seal window connection joints in inside of buildings so that they are vapor-tight.

Properties: Polypropylene fleece composite. Closed to vapor diffusion. Self-adhesive strip for adhering to window frames. Can be plastered over on the fleece side. Color: white. With test certificate from MPA Bau Hannover.

Technical information:

Adhesive strength 12 N/25 mm.

Temperature resistance -40 °C to +80 °C.

Fire protection class B2

Note: Window frames are bonded using the self-adhesive strip. For bonding to masonry, we recommend Soudalseal 215 LM. Apply as a bead and press on to a residual thickness of 3 - 5 mm.



Item no.	Width	Roll length	Price per piece	Price per piece from 5 pieces	Package contents
6239270	70 mm	50 m	•	•	1
62392100	10 mm	50 m	•	•	1
62392150	150 mm	50 m	•	•	1

Window connection film, outside

Application: Window connection films are used to seal window connection joints on the outside of buildings so that they are water vapor permeable.

Properties: Polypropylene fleece composite. Permeable. Self-adhesive strip for adhering to window frames. Can be plastered over on the rough fleece side of the film composite. UV-resistant for three months. Watertight under driving rain 600 Pa. Front color: anthracite, back color: white. With test certificate from MPA Bau Hannover.

Technical information:

Adhesive strength 12 N/25 mm.

Temperature resistance -40 °C to +80 °C.

Fire protection class B2

Note: Window frames are bonded using the self-adhesive strip. For bonding to masonry, we recommend Soudalseal 215 LM. Apply as a bead and press on to a residual thickness of 3 - 5 mm.



Item no.	Width	Roll length	Price per piece	Price per piece from 5 pieces	Package contents
6239370	70 mm	50 m	•	•	1
62393100	100 mm	50 m	•	•	1
62393150	150 mm	50 m	•	•	1