fischer

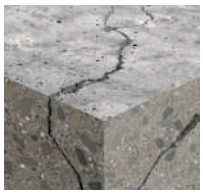
FIS EB II.
The epoxy mortar for standard applications in concrete.

The epoxy mortar for standard applications in concrete.

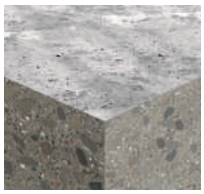
FIS EB II the epoxy mortar for applications in concrete.
FIS MR Plus the static mixer for fischer injection cartridges.
FIS A the flexible anchor rod.
RG M the threaded rod with chamfer.
Steel concrete bar

Anchorage substrate

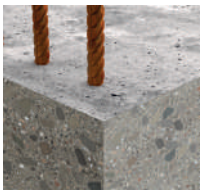
Suitable for the following building materials:



Cracked concrete
C20/C25 to C50/C60



Non-cracked concrete
C20/C25 to C50/C60



Post-installed rebar
connections

Approvals/ Certificates

ETA-21/0469,
ETA-21/0470

Fire resistance
class R 120

Seismic C1, C2

Functionality and installation

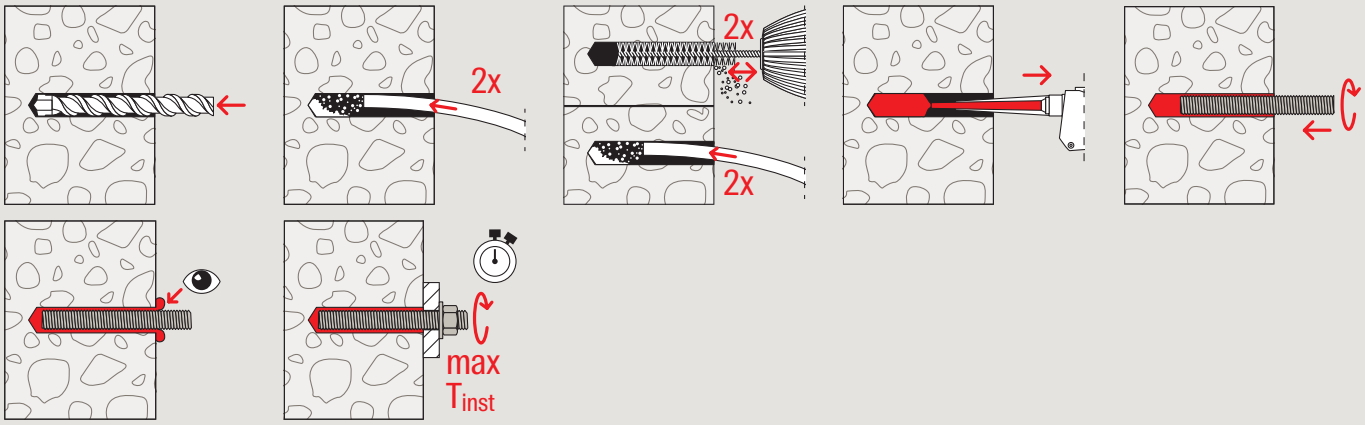
Advantages at a glance

- The injection mortar FIS EB II has ETA assessments for anchorings in cracked concrete and for post-installed rebar connections.
- Due to the seismic approval for performance category C1 and C2, FIS EB II can be safely used in earthquake regions.
- FIS EB II is the reliable system for fixing heavy loads indoors and outdoors.
- Due to the variable anchoring depths, the epoxy resin mortar is very versatile.
- The long processing time of FIS EB II is particularly suitable for applications in large and deep drillholes.

Functionality

- The epoxy mortar FIS EB II in combination with the threaded rod FIS A or RG M is suitable for pre-positioned and push-through installation.
- Resin and hardener are stored in two separate chambers and are only mixed and activated in the static mixer when the cartridge is pressed out.
- The mortar is injected bubble-free from the drill hole base.
- The mortar bonds the fixing to the drill hole wall over the entire surface and seals the drill hole completly.
- The fixing element is set by hand with a slight twisting movement down to the bottom of the hole.
- For push-through installation, the annular gap between the fixing element and the attachment part is filled with FIS EB II.

Installation



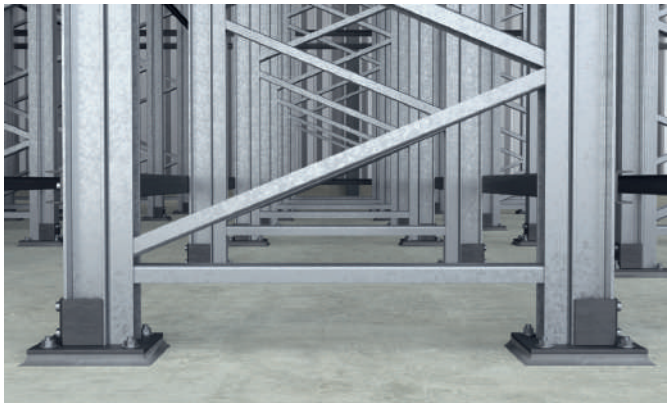
Curing times

Processing and curing times					
Temperature in the anchorage base [°C]	+5 – +10	> +10 – +15	> +15 – +20	> + 20 – +30	> + 30 – + 40
Maximum processing time [minutes]	180	90	60	30	15
Minimum curing time [hours]	96	60	36	24	12

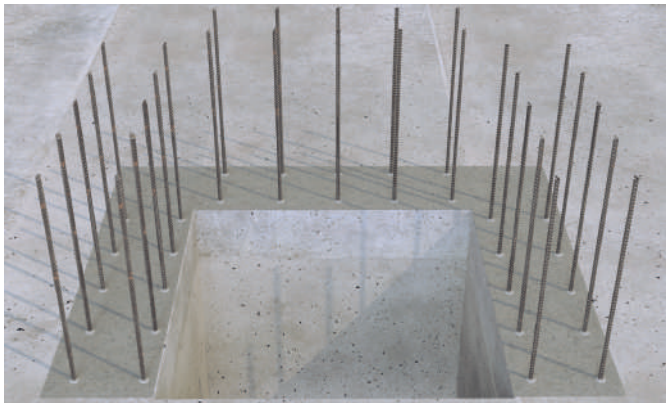
Applications and compatible anchoring elements.

Sound insulation walls

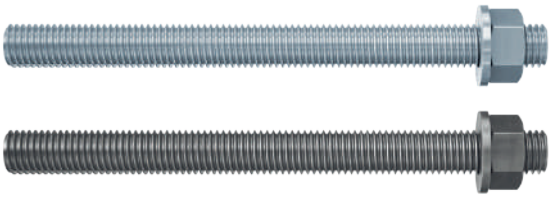
Façade substructure



High racks



Post-installed rebar connections



Anchor rod FIS A
Made of zinc plated or stainless steel R.

Anchor rod FIS A

- The anchor rod FIS A is approved for use with FIS EB II in sizes M8-M30 made of zinc plated or stainless steel R.
- The variable anchoring depths allow optimum adaptation to the application and load requirements.

Rebar anchor FRA
Rebar anchor made of reinforcing steel with metric connection thread made of stainless steel.

Rebar anchor FRA

- The FRA rebar anchor is a concrete steel bar with metric connection thread made of stainless steel in sizes M12-M24 which enables the transmission of very high tensile loads.

The battery dispenser for professionals.

Universal cartridge holder for the cartridge sizes 150T, 300T, 360S and 390S.

Dosing function for **optimum mortar use** depending on the application.

Adjustment for **permanent squeezing.**

Speed controller for **flexible processing speed.**

Detachable handle for **ergonomic working.**

Compatible CAS battery with 2 Ah and 4 Ah.

FIS DB S Pro
Art.-No. 558955 (EU)
Art.-No. 564960 (UK)

Sturdy cartridge cage made of metal for a **long-lasting use.**

Powerful drive also for **deep drill holes.**

Universal cartridge holder for the cartridge sizes 585S and 825S.

Soft rubber coating for **ergonomic working.**

FIS DB SL Pro
Art.-No. 562004 (EU)
Art.-No. 564961 (UK)

Belt hook for **comfortable carrying.**

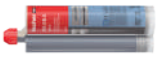
Advantages at a glance

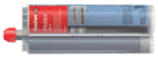
- The dosing function enables the efficient adjustment of the mortar quantity to match the drill hole size.
- The dispensing speed can be adjusted to the application via a controller.
- The detachable handle and belt hook ensure ergonomic use.
- The sturdy design of the device guarantees reliable and long-lasting processing under demanding building site conditions.
- The 18V technology provides for the necessary dispensing power. Furthermore, the battery is compatible with all Cordless Alliance System (CAS) power tools and chargers worldwide.

More information:
www.fischer-international.com/dispenser

Product range

Assortment


FIS EB II 390 S


FIS EB II 585 S

FIS MR PLUS

FIS UMR

Item	Item No.	Approval ETA	Languages on the cartridge	Scale unit	Contents	Sales unit [pcs]
FIS EB II 390 S	**562629**	●	EN, ES, PT	190	1x cartridge 390ml, 2x FIS MR Plus	20
FIS EB II 390 S	**562630**	●	TR, RU, EN	190	1x cartridge 390ml, 2x FIS MR Plus	20
FIS EB II 390 S in bucket	**563265**	●	EN, ES, PT	190	20x cartridges 390ml, 20x FIS MR Plus	1
FIS EB II 585 S	**562632**	●	EN, ES, PT, IT	270	1 cartridge 585ml, 2x FIS UMR	14
FIS MR Plus	**545853**	–	–	–	10x Static mixer FIS MR Plus	10
FIS UMR	**520593**	–	–	–	10x Static mixer FIS MR Plus	10

Dispenser

FIS DM S Pro

FIS AM

FIS DM S-L

FIS DB S Pro

FIS DB SL Pro

FIS AP

FIS DP S-L

Artikelbezeichnung	Art.-Nr.	Inhalt	Geeignet für	Sales unit [Stück]
FIS DM S Pro	**563337**	Manual dispenser	150 T, 300 T, 360 S, 390 S cartridges	1
FIS AM	**058000**	Manual dispenser	150 T, 300 T, 360 S, 390 S cartridges	1
FIS DM S-L	**567768**	Manual dispenser	585 S cartridges	1
FIS DB S Pro (EU)	**558955**	Battery operated dispenser with 1x charger 12-36V EU, 1x battery pack 18V 2.0Ah, 1x screw off handle, 1x belt hook, 1x hard case	150 T, 300 T, 360 S, 390 S cartridges	1
FIS DB S Pro (UK)	**564960**	Battery operated dispenser with 1x charger 12-36V UK, 1x battery pack 18V 2.0Ah, 1x screw off handle, 1x belt hook, 1x hard case	150 T, 300 T, 360 S, 390 S cartridges	1
FIS DB S Pro Solo	**567189**	Battery operated dispenser with 1x screw off handle, 1x belt hook, 1x hard case	150 T, 300 T, 360 S, 390 S cartridges	1
FIS DB SL Pro (EU)	**562004**	Battery operated dispenser with 1x charger 12-36V EU, 1x battery pack 18V 2.0Ah, 1x screw off handle, 1x belt hook, 1x hard case	585 S, 825 S cartridges	1
FIS DB SL Pro (UK)	**564961**	Battery operated dispenser with 1x charger 12-36V UK, 1x battery pack 18V 2.0Ah, 1x screw off handle, 1x belt hook, 1x hard case	585 S, 825 S cartridges	1
FIS DB SL Pro Solo	**567295**	Battery operated dispenser with 1x screw off handle, 1x belt hook, 1x hard case	585 S, 825 S cartridges	1
FSS-B 18V 2,0Ah	**563787**	Battery Pack	FIS DB S Pro, FIS DB SL Pro	1
FSS-B 18V 4,0Ah	**552930**	Battery Pack	FIS DB S Pro, FIS DB SL Pro	1
FIS AP	**058027**	Pneumatic dispenser	150 T, 300 T, 360 S, 390 S cartridges	1
FIS DP S-L	**511125**	Pneumatic dispenser	585 S cartridges	1

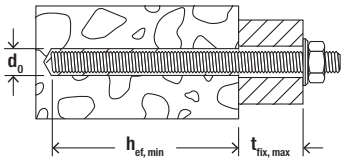
Accessories drill hole cleaning air

Compressed-air cleaning tool ABP

Blow-out pump AB G

Centring wedge

Item	Art.-No.	Contents	Total length [mm]	Sales unit [pcs]
Compressed-air cleaning tool ABP	**059456**	–	460	1
Blow-out pump AB G	**567792**	–	370	1
Centring wedge	**093076**	10 wedges for overhead installation, from M16	–	10



Anchor rod FIS A in combination with FIS EB II

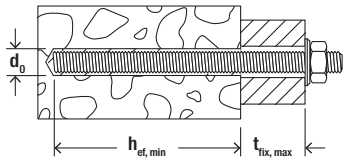
FIS A, Zinc plated

FIS A, Stainless steel

Item	Item No. Zinc plated Steel grade 5.8	Zinc plated Steel grade 8.8	Stainless steel R FK 70 CRC III	Drill hole diameter d_0 [mm]	Min. anchorage depth $h_{ef, min}$ [mm]	Max. usable length $t_{fix, hef min}$ [mm]	Min. filling quantity FIS EB II $h_{ef min}$ [scale units]	Max. anchorage depth $h_{ef max}$ [mm]	Max. usable length $t_{fix, hef max}$ [mm]	Max. filling quantity FIS EB II $h_{ef, max}$ [scale units]	Sales unit [pcs]
FIS A M 8 x 90	090274	519390	090440	10	60	19	2	78	1	3	10
FIS A M 8 x 110	090275	519391	090441	10	60	39	2	98	1	3	10
FIS A M 8 x 130	090276	519392	090442	10	60	59	2	118	1	4	10
FIS A M 8 x 140	553763	–	–	10	60	70	2	129	1	4	10
FIS A M 8 x 175	090277	519393	090443	10	60	104	2	160	4	5	10
FIS A M 8 x 1000	509214	509222	509230	10	60	–	2	160	–	5	10
FIS A M 10 x 110	090278	–	090444	12	60	37	3	96	1	4	10
FIS A M 10 x 130	090279	–	090447	12	60	57	3	116	1	5	10
FIS A M 10 x 150	090281	517935	090448	12	60	77	3	136	1	5	10
FIS A M 10 x 170	044969	519395	044973	12	60	97	3	156	1	6	10
FIS A M 10 x 190	–	517936	–	12	60	117	3	176	1	7	10
FIS A M 10 x 200	090282	519396	090449	12	60	127	3	186	1	7	10
FIS A M 10 x 1000*	509215	509223	509231	12	60	–	3	200	–	7	10
FIS A M 12 x 120	044971	519397	044974	14	70	34	3	103	1	5	10
FIS A M 12 x 140	090283	519398	090450	14	70	54	3	123	1	6	10
FIS A M 12 x 160	090284	517937	090451	14	70	74	3	143	1	7	10
FIS A M 12 x 180	090285	519399	090452	14	70	94	3	163	1	7	10
FIS A M 12 x 200	–	517938	519421	14	70	114	3	183	1	8	10
FIS A M 12 x 210	090286	–	090453	14	70	124	3	193	1	9	10
FIS A M 12 x 260	090287	–	090454	14	70	174	3	240	4	10	10
FIS A M 12 x 1000*	509216	509224	509232	14	70	–	3	240	–	10	10
FIS A M 16 x 130	044972	519400	044975	18	80	30	5	109	1	7	10
FIS A M 16 x 175	090288	519401	090455	18	80	75	5	154	1	9	10
FIS A M 16 x 200	090289	517939	090456	18	80	100	5	179	1	11	10
FIS A M 16 x 250	090290	517940	090457	18	80	150	5	229	1	14	10
FIS A M 16 x 300	090291	519402	090458	18	80	200	5	279	1	16	10
FIS A M 16 x 350	–	558865	–	18	80	250	5	320	10	19	10
FIS A M 16 x 1000*	509217	509225	509233	18	80	–	5	320	–	19	10
FIS A M 20 x 245	090292	519404	090459	24	90	131	11	220	1	27	10
FIS A M 20 x 290	090293	519406	090460	24	90	176	11	265	1	32	10
FIS A M 20 x 350	–	559627	–	24	90	236	11	320	6	39	10
FIS A M 20 x 400	–	558866	–	24	90	286	11	375	1	45	10
FIS A M 20 x 1000*	–	519410	519427	24	90	–	11	400	–	48	10
FIS A M 24 x 290	090294	–	090461	28	96	165	15	260	1	38	5
FIS A M 24 x 380	090295	–	090462	28	96	255	15	350	1	51	5
FIS A M 24 x 450	–	558867	–	28	96	325	15	420	1	61	5
FIS A M 24 x 650	–	558868	–	28	96	525	15	480	141	69	5
FIS A M 24x 1000*	–	551771	–	28	96	–	15	480	–	69	5
FIS A M 30 x 430	090297	–	090464	35	120	275	27	394	1	88	5
FIS A M 30 x 550	–	558869	–	35	120	396	27	515	1	114	5
FIS A M 30 x 650	–	558870	–	35	120	496	27	600	16	132	5
FIS A M 30 x 750	–	558871	–	35	120	596	27	600	116	132	5

* Order washer and nut separately. – FIS A made of high-corrosion resistant steel HCR upon request. Further dimensions on request.

Product range



Threaded rod G M

G M

Item	Zinc plated, steel grade 4.8 Item No. gvz	Zinc plated, steel grade 5.8 Item No. gvz	Zinc plated, steel grade 8.8 Item No. gvz	Hot-dip galvanised steel Item No. hdg	Drill hole diameter d_0 [mm]	Min. / max. anchorage depth [mm]	Min. / max. usable length [mm]	Min. / max. filling quantity FIS EB II [scale units]	Sales unit [pcs]
G M8 x 110	–	561506	561514	–	10	60 / 98	1 / 40	2 / 3	50
G M8 x 1000	561502	561507	561515	–	10	60 / 160	–	2 / 5	20
G M10 x 130	–	561508	561516	–	12	60 / 116	1 / 56	3 / 5	50
G M10 x 1000	561503	561509	561517	561533	12	60 / 200	–	3 / 7	20
G M12 x 140	–	561510	–	–	14	70 / 123	1 / 54	3 / 6	40
G M12 x 160	–	–	561518	562138	14	70 / 143	1 / 72	3 / 7	40
G M12 x 190	–	–	–	562139	14	70 / 104	1 / 100	3 / 8	40
G M12 x 1000	561504	561511	561519	561534	14	70 / 240	–	3 / 10	15
G M16 x 175	–	–	561520	–	18	80 / 154	1 / 75	5 / 10	20
G M16 x 190	–	567693	–	561528	18	80 / 169	1 / 90	5 / 11	20
G M16 x 250	–	–	561521	–	18	80 / 229	1 / 150	5 / 14	20
G M16 x 1000	561505	561512	561522	561535	18	80 / 320	–	5 / 19	10
G M20 x 190	–	–	–	561529	24	90 / 165	1 / 76	11 / 19	20
G M20 x 220	–	–	–	561530	24	90 / 195	1 / 106	11 / 24	20
G M20 x 240	–	–	–	561531	24	90 / 215	1 / 126	11 / 26	20
G M20 x 260	–	567694	–	561532	24	90 / 235	1 / 146	11 / 29	15
G M20 x 350	–	–	561523	–	24	90 / 325	6 / 236	11 / 39	15
G M20 x 1000	–	561513	561524	561536	24	90 / 400	–	11 / 48	5
G M24 x 1000	–	–	561525	–	28	96 / 480	–	14 / 69	3
G M27 x 1000	–	–	561526	–	30	108 / 540	–	15 / 73	3
G M30 x 1000	–	–	561527	–	35	120 / 600	–	24 / 120	3

Nut and washer

Hexagon nut and washer

Item	Item No. Zinc plated steel grade 8.8	Stainless steel R	Width across nut SW	Washer (outer diameter x thickness) [mm]	Match	Sales unit [pcs]
Nut & washer M8	510509	510113	13	16 x 1.6	FIS A M8 x 1.000	50
Nut & washer M10	510510	510514	17	20 x 2.0	FIS A M10 x 1.000	50
Nut & washer M12	510511	510515	19	24 x 2.5	FIS A M12 x 1.000	25
Nut & washer M16	510512	510516	24	30 x 3.0	FIS A M16 x 1.000	20
Nut & washer M20	519737	519738	30	37 x 3.0	FIS A M20 x 1.000	10
Nut & washer M24	552110	–	36	37 x 3,0	FIS A M24 x 1.000	5
Nut & washer M30	559124	–	46	56 x 4,0	FIS A M30 x 1.000	5

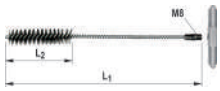
Rebar anchor FRA in combination with FIS EB II

Rebar anchor FRA

Item	Item No.	Approval ETA	Total length l [mm]	Max. fixing thickness t_{fix} [mm]	Drill hole d_o [Ø mm]	Fill quantity [scale units]	Sales unit [pcs]
FRA 12/900 M 12-60*	505529	●	975	60	16	50	8
FRA 16/1100 M 16-60*	505533	●	1180	60	20	81	8
FRA 20/1400 M 20-60*	505534	●	1485	60	25	160	4

* Concrete steel bar with metric thread made of stainless steel R.

Cleaning brushes



BS

SDS-Adapter M8

Brush extension

Compressed air nozzle

Item	Item No.	Length L_1 [mm]	Length L_2 [mm]	Brush diameter ø [mm]	For drill diameter [mm]	Sales unit [pcs]
BS ø 8	078177	120	50	9	8	1
BS ø 10	078178	120	50	11	10	1
BS ø 12	078179	150	80	13	12	1
BS ø 14	078180	250	80	16	14	1
BS ø 16/18	078181	250	80	20	16/18	1
BS ø 20/22	052277	180	80	25	20/22	1
BS ø 24	078182	300	100	26	24	1
BS ø 25	097806	300	100	27	25	1
BS ø 28	078183	350	100	30	28	1
BS ø 30/32/35	078184	400	100	40	30/32/35	1
Brush extension	508791	410	–	–	–	1
Compressed air nozzle D16-D19	511957	–	–	–	–	2
Compressed air nozzle D20-D25	511958	–	–	–	–	2

Loads

Injection system FIS EB II with threaded rod FIS A resp. RG M

Permissible loads of a single anchor[1) 2)] in normal concrete of strength class C20/25.
For the design the complete current assessment ETA-21/0469 of 25.07.2023 has to be considered.

					Cracked concrete				Non-cracked concrete			
	Material / surface[3)]	Effective anchorage depth	Minimum member thickness	Maximum instal-lation torque	Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads				Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads			
Type		h_{ef} [mm]	h_{min} [mm]	$T_{inst, max}$ [Nm]	N_{perm}[4)] [kN]	V_{perm}[4)] [kN]	s_{min}[4)] [mm]	c_{min}[4)] [mm]	N_{perm}[4)] [kN]	V_{perm}[4)] [kN]	s_{min}[4)] [mm]	c_{min}[4)] [mm]
FIS A M 8	5.8	60	100	10	3.6	6.3	40	40	5.4	6.3	40	40
	5.8	80	110	10	4.8	6.3	40	40	7.2	6.3	40	40
	5.8	160	190	10	9.0	6.3	40	40	9.0	6.3	40	40
	R-70	60	100	10	3.6	6.0	40	40	5.4	6.0	40	40
	R-70	80	110	10	4.8	6.0	40	40	7.2	6.0	40	40
	R-70	160	190	10	9.6	6.0	40	40	9.9	6.0	40	40
FIS A M 10	5.8	60	100	20	4.5	9.7	45	45	6.7	9.7	45	45
	5.8	90	120	20	6.7	9.7	45	45	10.1	9.7	45	45
	5.8	200	230	20	13.8	9.7	45	45	13.8	9.7	45	45
	R-70	60	100	20	4.5	9.2	45	45	6.7	9.2	45	45
	R-70	90	120	20	6.7	9.2	45	45	10.1	9.2	45	45
	R-70	200	230	20	15.0	9.2	45	45	15.7	9.2	45	45
FIS A M 12	5.8	70	100	40	6.3	14.3	55	55	9.4	14.3	55	55
	5.8	110	140	40	9.9	14.3	55	55	14.8	14.3	55	55
	5.8	240	270	40	20.5	14.3	55	55	20.5	14.3	55	55
	R-70	70	100	40	6.3	13.7	55	55	9.4	13.7	55	55
	R-70	110	140	40	9.9	13.7	55	55	14.8	13.7	55	55
	R-70	240	270	40	21.5	13.7	55	55	22.5	13.7	55	55
FIS A M 16	5.8	80	120	60	8.8	21.1	65	65	14.0	26.9	65	65
	5.8	125	170	60	13.7	26.9	65	65	22.4	26.9	65	65
	5.8	320	360	60	35.1	26.9	65	65	37.6	26.9	65	65
	R-70	80	120	60	8.8	21.1	65	65	14.0	25.2	65	65
	R-70	125	170	60	13.7	25.2	65	65	22.4	25.2	65	65
	R-70	320	360	60	35.1	25.2	65	65	42.0	25.2	65	65
FIS A M 20	5.8	90	140	120	11.7	28.0	85	85	16.7	40.0	85	85
	5.8	170	220	120	23.3	42.3	85	85	38.1	42.3	85	85
	5.8	400	450	120	54.9	42.3	85	85	58.6	42.3	85	85
	R-70	90	140	120	11.7	28.0	85	85	16.7	39.4	85	85
	R-70	170	220	120	23.3	39.4	85	85	38.1	39.4	85	85
	R-70	400	450	120	54.9	39.4	85	85	65.7	39.4	85	85
FIS A M 24	5.8	96	160	150	12.9	30.8	105	105	18.4	44.1	105	105
	5.8	210	270	150	34.6	60.6	105	105	53.4	60.6	105	105
	5.8	480	540	150	79.0	60.6	105	105	84.3	60.6	105	105
	R-70	96	160	150	12.9	30.8	105	105	18.4	44.1	105	105
	R-70	210	270	150	34.6	56.8	105	105	53.4	56.8	105	105
	R-70	480	540	150	79.0	56.8	105	105	94.3	56.8	105	105
FIS A M 30	5.8	120	190	300	18.0	43.1	140	140	25.7	61.6	140	140
	5.8	280	350	300	52.4	96.0	140	140	78.5	96.0	140	140
	5.8	600	670	300	112.2	96.0	140	140	133.8	96.0	140	140
	R-70	120	190	300	18.0	43.1	140	140	25.7	61.6	140	140
	R-70	280	350	300	52.4	90.2	140	140	78.5	90.2	140	140
	R-70	600	670	300	112.2	90.2	140	140	150.1	90.2	140	140

1) Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of γ_L = 1.4 are considered. As a single anchor counts e.g. an anchor with a spacing s ≥ 3 x h_{ef} and an edge distance c ≥ 1.5 x h_{ef}. Accurate data see ETA.

2) The specified loads are valid for anchorages in dry and damp concrete. For temperatures in the anchoring substrate up to 50 °C (resp. short term up to 72 °C). Higher loads are possible at lower temperatures. Drill hole cleaning as per specification in the ETA. The factor Ψ_{sus} for sustained load was taken into account with 1.0.

3) Further steel grades, versions and technical data see ETA, e.g. for dry internal conditions, galvanised steel (gvz); for damp interiors and for outdoor use, stainless steel (R).

4) In the case of combinations of tension and shear loads, bending moments with reduced or minimum spacing and edge distances (anchor groups), the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018. We recommend using our anchor design software C-FIX.

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