

**fischer** 

**Bolt anchor FAZ II.**  
The power anchor  
for highest  
demands.



# For highest demands. Powerful and flexible.

With a choice of pre-assembled **normal washer** or **large washer GS** and with washer HBS in compliance with wood construction standard DIN 1052 (not pre-assembled).

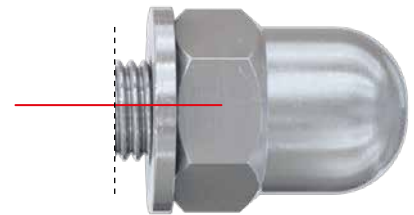
The distinctive edge holds the expansion clip in position even with reinforcement hits, thus ensuring **safe installation**.

The protruding hammer-in pin **protects the thread** from damage during setting.



The interaction of cone and expansion clip significantly increases load-bearing capacity and makes **minimum edge distance and axial spacing possible**.

The sizes of the special cap nut version (M10 and M12) can be used for the **application on sophisticated design**. They are also implemented in the ETA assessment.



## Variable embedment depths

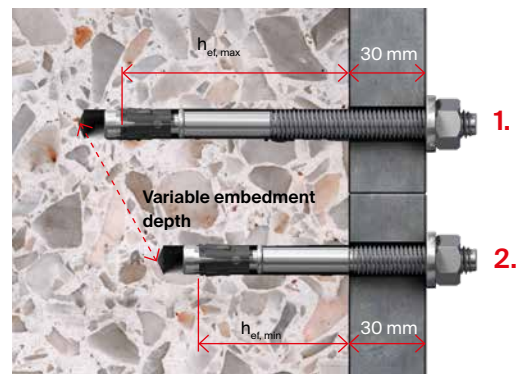
Enables most accurate adaption on the loads (M 8–M 16).

### 1. Maximum load with maximum embedment depth FAZ II 10 R

- 60 mm embedment depth = maximum permissible tension load of **6.2 kN** and shear load of **15.1 kN**.
- Permissible loads may be calculated for embedment depth between 40 mm and 60 mm.

### 2. Fast installation thanks to minimum embedment depth FAZ II 10 R

- 40 mm embedment depth = permissible tension load of **4.3 kN** and shear load of **11.3 kN**.



## Approvals



ETA-05/0069,  
for cracked concrete



See ICC-ES  
Evaluation Report  
at www.icc-es.org



Fire resistance classification  
R120



M8 - M20



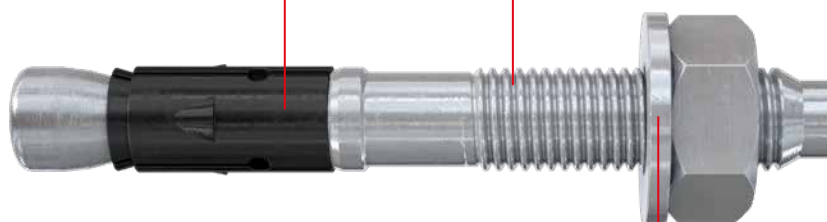
APPROVED



# For highest demands. Short and practical.

The 12 sizes of FAZ II K in zinc-plated or stainless steel versions can be used up to a fixture thickness of 20 mm. Now for diameter 8 as well.

The shorter bolt with minimum embedment depth is the **economic choice** for numerous applications such as the fixing of cable trays and substructures for façades.



With a choice of **normal** washer or **large washer GS**.

## Functioning

- The FAZ II K is suitable for pre-positioned and push-through installation.
- The small drill hole depth of the short version speeds up installation even further and reduces the number of reinforcement hits.

## Your advantages at a glance

- The properties of the FAZ II K considerably minimise the drilling effort and the hammer blows required to drive in the bolt anchor, saving energy and installation time.
- The tried-and-trusted expansion clip ensures a high load-bearing capacity even with minimum embedment depth. This guarantees an unbeatable price-performance ratio.

## Approvals



ETA-05/0069,  
for cracked concrete



Fire resistance classification  
R120



M8 – M20



# Advantages, functioning and installation.

## Your advantages at a glance

- With the new ETA assessment for Option 1 the tension loads are increased up to 10% and the shear loads up to 17%. So fewer and smaller anchors are required.
- The minimum embedment depth (see example) makes considerably shorter drill hole depths possible, thus provides a noticeably faster installation and less rebar hits.
- The new cup nut, not only gives the option for a better and refined optical design but also, ensures an accident free installation.
- FAZ II 6: First bolt anchor with drill-hole diameter 6 mm and ETA Option 1 worldwide, for safe and approved anchorage.

## Functioning

- The FAZ II is suitable for pre-positioned and push-through installation and is also ideal for stand-off installation.
- Experts report for use in concrete C12/15 and C80/95.
- The assessment document covers the use of hollow drills and diamond drills.

## Building materials

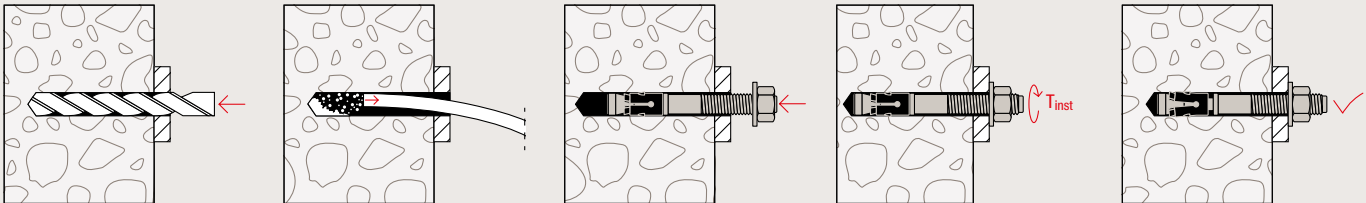
Suitable for building materials, such as



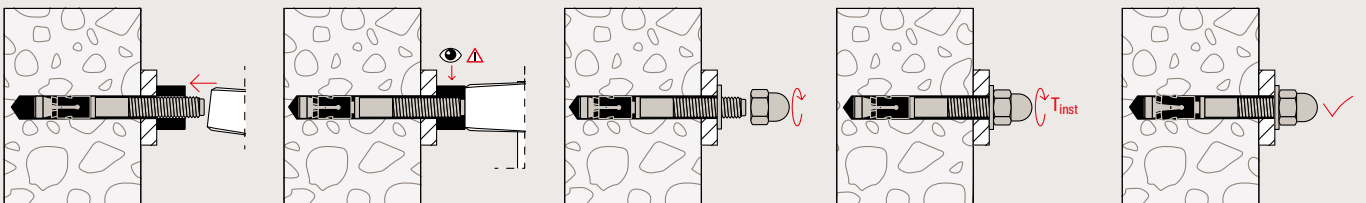
Cracked concrete



Uncracked concrete



## Push trough installation of the cup nut version with setting gauge



# Applications



FAZ II H R

## Metal construction



Railings



FAZ II GS R

## Façade construction



Façade substructure



FAZ II 12/100 HBS

## Timber construction



Wooden sleeper anchorages



Tension anchor

**Bolt anchor FAZ II**



**Railing fixings**



Railing fixings

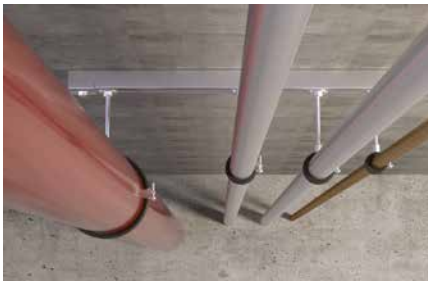
**Façade construction**



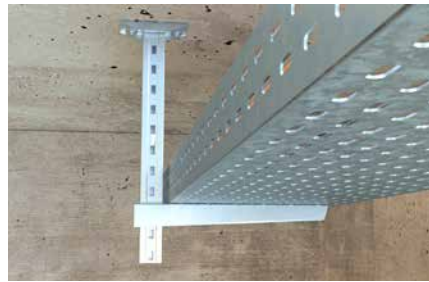
Façade substructure



**Sanitary / Heating / Electric**



Pipe hangers



Cable trays



# Applications

## Design examples

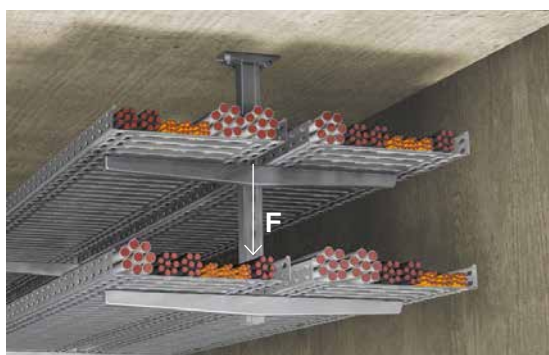
### Processing of thin or slim components, balcony railings under thin concrete plate



#### Basic conditions

- Fixing to the underside of the balcony
- Rail load 0.5 kN/m
- Length of balcony 2.500 mm
- Rail height 1.000 mm
- Post distance 1.000 mm
- Each anchor plate 4 pieces FAZ II 10/10 K R

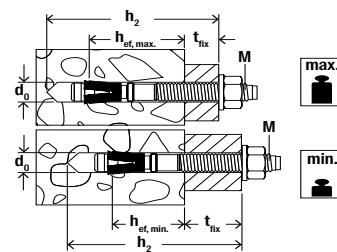
### Installation of cable trays with suspended supports



#### Basic conditions

- Cable trays
- Distance between anchors 120 mm
- Distance between the suspended supports 2.500 mm
- Anchor plate 60 x 150 mm
- Thickness of concrete ceiling 100 mm
- Each anchor plate 2 pieces FAZ II 10/10 K

# Assortment



## Bolt anchor FAZ II (maximum version)



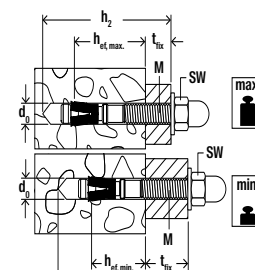
## Bolt anchor FAZ II

Item	Art.-No.			Approval			Drill diameter		Min. drill hole depth for push-through installation	Anchor length	Maximum embedment depth with respective usable length		Minimum embedment depth with respective usable length		Thread	Sales unit
	Steel, zinc-plated	stainless steel	highly corrosion-resistant steel	ETA	ICC	Seismic C1/C2 <sup>1)</sup>	d <sub>0</sub> [mm]	h <sub>2</sub> [mm]			h <sub>et,max</sub> [mm]	t <sub>fix</sub> [mm]	h <sub>et,min</sub> [mm]	t <sub>fix</sub> [mm]		
	gvz	R	HCR													[pcs]
FAZ II 6/10	542621	542623	—	●	—	—	6	60	65	40	10	—	—	M 6 x 25	50	
FAZ II 6/20	542622	542624	—	●	—	—	6	70	75	40	20	—	—	M 6 x 35	50	
FAZ II 8/10	94871	501396	—	●	●	C1	8	65	75	45	10	35 <sup>2)</sup>	20	M 8 x 38	50	
FAZ II 8/10	—	—	501428	●	●	C1	8	65	75	45	10	35 <sup>2)</sup>	20	M 8 x 38	10	
FAZ II 8/30	94877	501399	—	●	●	C1	8	85	95	45	30	35 <sup>2)</sup>	40	M 8 x 58	50	
FAZ II 8/30	—	—	501429	●	●	C1	8	85	95	45	30	35 <sup>2)</sup>	40	M 8 x 58	10	
FAZ II 8/50	94878	501401	—	●	●	C1	8	105	115	45	50	35 <sup>2)</sup>	60	M 8 x 78	50	
FAZ II 8/100	94879	—	—	●	●	C1	8	155	165	45	100	35 <sup>2)</sup>	110	M 8 x 128	25	
FAZ II 8/160	503251	—	—	●	●	C1	8	215	225	45	160	35 <sup>2)</sup>	170	M 8 x 100	20	
FAZ II 10/10	94981	501403	—	●	●	C1/C2	10	85	95	60	10	40	30	M 10 x 53	50	
FAZ II 10/10	—	—	501430	●	●	C1	10	85	95	60	10	40	30	M 10 x 53	10	
FAZ II 10/20	94982	—	—	●	●	C1/C2	10	95	105	60	20	40	40	M 10 x 63	25	
FAZ II 10/20	—	501406	—	●	●	C1/C2	10	95	105	60	20	40	40	M 10 x 63	50	
FAZ II 10/30	94983	—	—	●	●	C1/C2	10	105	115	60	30	40	50	M 10 x 73	25	
FAZ II 10/30	—	501407	—	●	●	C1/C2	10	105	115	60	30	40	50	M 10 x 73	50	
FAZ II 10/30	—	—	503185	●	●	C1	10	105	115	60	30	40	50	M 10 x 73	10	
FAZ II 10/50	94984	501409	—	●	●	C1/C2	10	125	135	60	50	40	70	M 10 x 93	20	
FAZ II 10/70	—	501410	—	●	●	C1/C2	10	145	155	60	70	40	90	M 10 x 113	20	
FAZ II 10/80	94985	—	—	●	●	C1/C2	10	155	165	60	80	40	100	M 10 x 123	20	
FAZ II 10/100	94986	501411	—	●	●	C1/C2	10	175	185	60	100	40	120	M 10 x 143	20	
FAZ II 10/160	503252	501412	—	●	●	—	10	235	245	60	160	40	180	M 10 x 193	20	
FAZ II 12/10	95419	501413	—	●	●	C1/C2	12	100	110	70	10	50	30	M 12 x 61	20	
FAZ II 12/10	—	—	503186	●	●	C1	12	100	110	70	10	50	30	M 12 x 61	10	
FAZ II 12/20	95420	501415	—	●	●	C1/C2	12	110	120	70	20	50	40	M 12 x 71	20	
FAZ II 12/30	95421	501416	—	●	●	C1/C2	12	120	130	70	30	50	50	M 12 x 81	20	
FAZ II 12/30	—	—	501431	●	●	C1	12	120	130	70	30	50	50	M 12 x 81	10	
FAZ II 12/50	95446	501419	—	●	●	C1/C2	12	140	150	70	50	50	70	M 12 x 101	20	
FAZ II 12/60	—	501420	—	●	●	C1/C2	12	150	160	70	60	50	80	M 12 x 111	20	
FAZ II 12/80	95454	—	—	●	●	C1/C2	12	170	180	70	80	50	100	M 12 x 131	20	
FAZ II 12/100	95470	501421	—	●	●	C1/C2	12	190	200	70	100	50	120	M 12 x 151	20	
FAZ II 12/160	503253	—	—	●	●	—	12	250	260	70	160	50	180	M 12 x 186	10	

<sup>1)</sup> Only with maximum embedment depth

<sup>2)</sup> With minimum embedment depth only for statically indeterminate systems





## Bolt anchor FAZ II (maximum version) / Bolt anchor FAZ II H (version with cap nut)

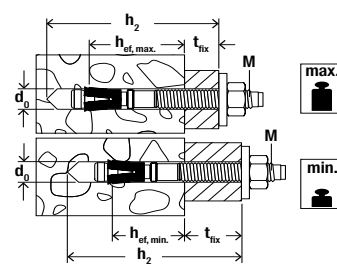


Bolt anchor FAZ II

Bolt anchor FAZ II H

Item	Art.-No.			Approval			Drill diameter $d_0$ [mm]	Min. drill hole depth for push-through installation $h_2$ [mm]	Anchor length $l$ [mm]	Max. anchoring depth with related working length		Min. anchoring depth with related working length		Thread $\emptyset$ x length [mm]	Sales unit [pcs]
	Steel, zinc-plated gvz	stainless steel R	highly corrosion-resistant steel HCR	ETA	ICC	Seismic C1/C2 <sup>1)</sup>				$h_{ef,max}$ [mm]	$t_{fix}$ [mm]	$h_{ef,min}$ [mm]	$t_{fix}$ [mm]		
FAZ II 12/160	—	503180	—	●	●	—	12	250	260	70	160	50	180	M 12 x 186	20
FAZ II 12/200	95605	—	—	●	●	—	12	290	300	70	200	50	220	M 12 x 186	10
FAZ II 16/5	522124	—	—	●	●	C1/C2	16	115	128	85	5	65	25	M 16 x 64	10
FAZ II 16/5	—	522125	—	●	●	C1/C2	16	115	128	85	5	65	25	M 16 x 64	20
FAZ II 16/25	—	501423	—	●	●	C1/C2	16	135	148	85	25	65	45	M 16 x 84	10
FAZ II 16/25	95836	—	—	●	●	C1/C2	16	135	148	85	25	65	45	M 16 x 84	10
FAZ II 16/25	—	—	501432	●	●	C1	16	135	148	85	25	65	45	M 16 x 84	10
FAZ II 16/50	95864	—	503187	●	●	C1	16	160	173	85	50	65	70	M 16 x 109	10
FAZ II 16/50	—	501424	—	●	●	C1/C2	16	160	173	85	50	65	70	M 16 x 109	20
FAZ II 16/60	—	532570	—	●	●	C1/C2	16	170	183	85	60	65	80	M 16 x 119	20
FAZ II 16/100	95865	501425	—	●	●	C1/C2	16	210	223	85	100	65	120	M 16 x 159	10
FAZ II 16/160	503254	—	—	●	●	C1/C2	16	270	283	85	160	65	180	M 16 x 189	10
FAZ II 16/200	95967	—	—	●	●	—	16	310	323	85	200	65	220	M 16 x 189	10
FAZ II 16/250	95968	—	—	●	●	—	16	360	373	85	250	65	270	M 16 x 100	10
FAZ II 16/300	96188	—	—	●	●	—	16	410	423	85	300	65	320	M 16 x 100	10
FAZ II 20/30	46632	—	—	●	●	C1/C2	20	155	172	100	30	—	—	M 20 x 54	5
FAZ II 20/30	—	501426	—	●	●	C1/C2	20	155	172	100	30	—	—	M 20 x 54	4
FAZ II 20/60	46633	—	—	●	●	C1/C2	20	185	202	100	60	—	—	M 20 x 84	5
FAZ II 20/60	—	503183	—	●	●	C1/C2	20	185	202	100	60	—	—	M 20 x 84	4
FAZ II 20/160	503255	—	—	●	●	C1/C2	20	285	302	100	160	—	—	M 20 x 100	5
FAZ II 24/30	46635	—	—	●	●	C1	24	185	205	125	30	—	—	M 24 x 58	5
FAZ II 24/30	—	501427	—	●	●	C1	24	185	205	125	30	—	—	M 24 x 58	4
FAZ II 24/60	46636	—	—	●	●	C1	24	215	235	125	60	—	—	M 24 x 88	5
FAZ II 24/60	—	503184	—	●	●	C1/C2	24	215	235	125	60	—	—	M 24 x 88	4
FAZ II 10/10 H	543392	543396	—	●	—	C1/C2	10	87	95	60	10	40	30	M 10 x 53	20
FAZ II 10/20 H	543393	543397	—	●	—	C1/C2	10	97	105	60	20	40	40	M 10 x 63	20
FAZ II 12/10 H	543394	543398	—	●	—	C1/C2	12	99	109	70	10	50	30	M 12 x 61	20
FAZ II 12/20 H	543395	543399	—	●	—	C1/C2	12	109	119	70	20	50	40	M 12 x 71	20

<sup>1)</sup> Only with maximum embedment depth<sup>2)</sup> With minimum embedment depth only for statically indeterminate systems



Bolt anchor FAZ II GS (with large washer) / FAZ II HBS (washer compliant to timber construction standard DIN 1052)

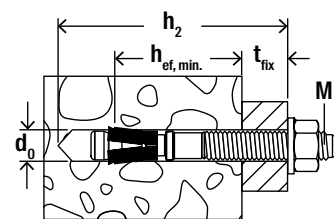


Bolt anchor FAZ II GS / Bolt anchor FAZ II HBS

Item	Art.-No.		Approval		Drill diameter $d_0$ [mm]	Min. drill hole depth for push-through installation $h_2$ [mm]	Anchor length $l$ [mm]	Maximum embedment depth with respective usable length		Minimum embedment depth with respective usable length		Thread $\emptyset$ x length [mm]	Washer (outer diameter x thickness) [mm]	Sales unit [pcs]
	Steel, zinc-plated gvz	stainless steel R	ETA	Seismic C1/C2 <sup>1)</sup>				$h_{ef,max}$ [mm]	$t_{fix}$ [mm]	$h_{ef,min}$ [mm]	$t_{fix}$ [mm]			
FAZ II 8/10 GS	94872	501398	●	C1	8	65	75	45	10	35 <sup>2)</sup>	20	M 8 x 38	22 x 2.5	50
FAZ II 8/30 GS	96189	501400	●	C1	8	85	95	45	30	35 <sup>2)</sup>	40	M 8 x 58	22 x 2.5	50
FAZ II 10/10 GS	96291	501405	●	C1/C2	10	85	95	60	10	40	30	M 10 x 53	25 x 3	50
FAZ II 10/30 GS	96297	—	●	C1/C2	10	105	115	60	30	40	50	M 10 x 73	25 x 3	25
FAZ II 10/30 GS	—	501408	●	C1/C2	10	105	115	60	30	40	50	M 10 x 73	25 x 3	50
FAZ II 12/10 GS	96303	501414	●	C1/C2	12	100	110	70	10	50	30	M 12 x 61	30 x 3	20
FAZ II 12/20 GS	502530	—	●	C1/C2	12	110	120	70	20	50	40	M 12 x 71	30 x 3	20
FAZ II 12/30 GS	96340	501418	●	C1/C2	12	120	130	70	30	50	50	M 12 x 81	30 x 3	20
FAZ II 12/50 GS	502531	—	●	C1/C2	12	140	150	70	50	50	70	M 12 x 101	30 x 3	20
FAZ II 12/80 GS	538430	—	●	C1/C2	12	170	180	70	80	50	100	M 12 x 131	44 x 4	20
FAZ II 12/100 GS 30x3	502532	—	●	C1/C2	12	190	200	70	100	50	120	M 12 x 151	30 x 3	20
FAZ II 12/100 GS	538702	—	●	C1/C2	12	190	200	70	100	50	120	M 12 x 151	44 x 4	20
FAZ II 12/120 GS 30x3	96367	—	●	C1/C2	12	210	220	70	120	50	140	M 12 x 171	30 x 3	20
FAZ II 12/120 GS	538703	—	●	C1/C2	12	210	220	70	120	50	140	M 12 x 171	44 x 4	20
FAZ II 12/140 GS	538433	—	●	—	12	230	240	70	140	50	160	M 12 x 186	44 x 4	20
FAZ II 12/160 GS	538431	—	●	—	12	250	260	70	160	50	180	M 12 x 186	44 x 4	20
FAZ II 12/160 GS	—	503181	●	—	12	250	260	70	160	50	180	M 12 x 186	44 x 4	20
FAZ II 12/180 GS	538434	—	●	—	12	270	280	70	180	50	200	M 12 x 186	44 x 4	20
FAZ II 12/200 GS	538432	—	●	—	12	290	300	70	200	50	220	M 12 x 186	44 x 4	20
FAZ II 16/160 GS	503261	—	●	C1/C2	16	270	283	85	160	65	180	M 16 x 189	56 x 5	10
FAZ II 16/160 GS	—	503182	●	C1/C2	16	270	283	85	160	65	180	M 16 x 100	56 x 5	4
FAZ II 16/200 GS	96370	—	●	—	16	310	323	85	200	65	220	M 16 x 189	56 x 5	10
FAZ II 12/100 HBS	522951	—	●	C1/C2	12	190	205	70	100	50	120	M 12 x 151	58 x 6	20
FAZ II 12/120 HBS	522952	—	●	—	12	210	225	70	120	50	140	M 12 x 171	58 x 6	20
FAZ II 16/160 HBS	522953	—	●	C1/C2	16	270	278	85	160	65	180	M 16 x 189	68 x 6	10
FAZ II 16/200 HBS	522954	—	●	—	16	310	328	85	200	65	220	M 16 x 189	68 x 6	10

<sup>1)</sup> Only with maximum embedment depth

<sup>2)</sup> With minimum embedment depth only for statically indeterminate systems



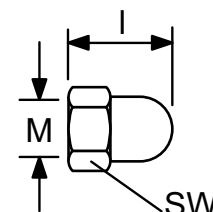
## Bolt anchor FAZ II K / FAZ II K GS (short version)



Bolt anchor FAZ II K Bolt anchor FAZ II K / FAZ II K GS

Item	Art.-No.		Approval		Drill diameter $d_0$ [mm]	Min. drill hole depth for push-through installation $h_2$ [mm]	Anchor length $l$ [mm]	Minimum embedment depth with respective usable length		Thread $\emptyset$ x length [mm]	Washer (outer diameter x thickness) [mm]	Sales unit [pcs]
	Steel, zinc-plated gvz	stainless steel R	ETA	Seismic C1/C2 <sup>1)</sup>				$h_{ef,min}$ [mm]	$t_{fix}$ [mm]			
FAZ II 8/5 K	538989	538990	●	—	8	45	60	35 <sup>1)</sup>	5	M 8 x 23	16 x 1.6	50
FAZ II 10/10 K	522108	522116	●	C1/C2	10	65	75	40	10	M 10 x 33	20 x 2.0	50
FAZ II 10/20 K	522110	—	●	C1/C2	10	75	85	40	20	M 10 x 43	20 x 2.0	25
FAZ II 10/20 K	—	522117	●	C1/C2	10	75	85	40	20	M 10 x 43	20 x 2.0	50
FAZ II 12/10 K	522118	522122	●	C1/C2	12	80	90	50	10	M 12 x 41	24 x 2.5	20
FAZ II 12/20 K	522119	522123	●	C1/C2	12	90	100	50	20	M 12 x 51	24 x 2.5	20
FAZ II 10/10 K GS	522115	—	●	C1/C2	10	65	75	40	10	M 10 x 33	25 x 3.0	50
FAZ II 12/10 K GS	522121	—	●	C1/C2	12	80	90	50	10	M 12 x 41	30 x 3.0	20

<sup>1)</sup> With minimum embedment depth only for statically indeterminate systems



## Cap nut FAZ II



Cap nut FAZ II

Item	Art.-No.		Approval	Thread $\emptyset$ x length [mm]	Cap nut height [mm]	Key width [mm]	Sales unit [pcs]
	Steel, zinc-plated gvz	stainless steel C					
FAZ II M10 <sup>1)</sup>	543977	543979	●	M 10	23	17	20
FAZ II M12 <sup>1)</sup>	543978	543980	●	M 12	29	19	20

<sup>1)</sup> Can be combined with all bolt anchors FAZ II M 10 and M12 in accordance with approval.

# Accessories

Addition for



Filling disk FFD

Bolt anchor-Setting tool FABS

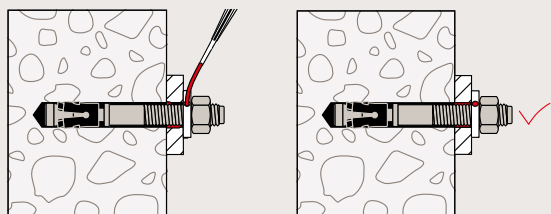
Bolt anchor-Setting tool FA-ST

Item	Art.-No.	Inner-Ø [mm]	Outer-Ø [mm]	Suitable for	Sales unit [pcs]
FFD 26x12x6	538458	12	26	FAZ II M8/10	4
FFD 26x12x6 R	541986	12	26	FAZ II M8/M10 R	4
FFD 30x14x6	538459	14	30	FAZ II M12	4
FFD 30x14x6 R	541987	14	30	FAZ II M12 R	4
FFD 38x19x7	538460	19	40	FAZ II M16	4
FFD 38x19x7 R	541988	19	40	FAZ II M16 R	4
FFD 46x23x8	538461	23	46	FAZ II M20	4
FFD 46x23x8 R	541989	23	46	FAZ II M20 R	4
FFD 54x28x10	538462	28	54	FAZ II M24	4
FFD 55x28x10 R	541990	28	54	FAZ II M24 R	4
FABS	077937	-	-	FAZ II for diameter from M6 up to M12	1
FA-ST M10	541891	-	-	FAZ II for diameter M10	1
FA-ST M12	541892	-	-	FAZ II for diameter M12	1

## fischer filling disc FFD

Optional e.g. for use under seismic loads C2 or to minimise the hole clearance:

The annular gap between bolt and attachment may be filled with mortar (compressive strength  $\geq 50 \text{ N/mm}^2$  e.g. FIS V, FIS EM Plus, FIS HB and FIS SB). The backfilling disc would be used in addition to the standard washer to be used. The thickness of the backfill disc must be taken into account for  $t_{\text{fix}}$ . The counterbore in the filling disc must point in the direction of the attachment part.



# Loads

## Bolt anchor FAZ II

For the design the complete current assessment ETA-05/0069 has to be considered.

Type	Material / surface <sup>2)</sup>	Effective anchorage depth $h_{ef}$ [mm]	Minimum member thickness $h_{min}$ [mm]	Installation torque $T_{inst}$ [Nm]	Cracked concrete				Non-cracked concrete			
					Permissible Tension ( $N_{perm}$ ), Shear loads ( $V_{perm}$ ), minimum spacing ( $s_{min}$ ) and edge distances ( $c_{min}$ )				Permissible Tension ( $N_{perm}$ ), Shear loads ( $V_{perm}$ ), minimum spacing ( $s_{min}$ ) and edge distances ( $c_{min}$ )			
					$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]	$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]
FAZ II 6	gvz	40	90	8	0.7	3.4	35	45	3.6	3.4	35	45
	R	40	90	8	0.7	5.0	35	45	5.0	5.0	35	45
FAZ II 8	gvz	35	80	20	2.6	7.8	35	40	4.9	7.8	40	40
	gvz	45	90	20	3.8	7.8	35	40	6.7	7.8	40	40
	R	35	80	20	2.6	9.5	35	40	4.9	9.6	40	40
	R	45	90	20	3.8	9.6	35	40	6.7	9.6	40	40
FAZ II 10	gvz	40	90	45	4.1	12.2	40	45	5.9	12.2	40	45
	gvz	60	110	45	6.2	12.2	40	45	9.5	12.2	40	45
	R	40	90	45	4.1	13.3	40	45	5.9	15.1	40	45
	R	60	110	45	6.2	15.1	40	45	9.5	15.1	40	45
FAZ II 12	gvz	50	100	60	5.8	17.5	50	55	8.3	17.5	50	55
	gvz	70	120	60	9.5	17.5	50	55	10.5	17.5	50	55
	R	50	100	60	5.8	18.6	50	55	8.3	21.9	50	55
	R	70	120	60	9.5	21.9	50	55	10.5	21.9	50	55
FAZ II 16	gvz	65	140	110	8.6	31.4	60	65	12.3	31.4	65	65
	gvz	85	140	110	12.9	31.4	60	65	18.4	31.4	65	65
	R	65	140	110	8.6	25.8	60	65	12.3	36.8	65	65
	R	85	140	110	12.9	38.6	60	65	18.4	39.9	65	65
FAZ II 20	gvz	100	170	200	16.4	42.6	95	85	23.4	46.5	95	95
	R	100	170	200	16.4	42.6	95	85	23.4	60.7	95	95
FAZ II 24	gvz	125	210	270	22.9	55.0	100	100	32.7	62.9	100	135
	R	125	210	270	22.9	55.0	100	100	32.7	78.6	100	135

<sup>1)</sup> 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  $\gamma_L = 1.4$  are considered. As a single anchor counts e.g. an anchor with a spacing  $s \geq 3 \times h_{ef}$  and an edge distance  $c \geq 1.5 \times h_{ef}$ . Accurate data see ETA

<sup>2)</sup> Further steel grades, versions and technical data see ETA, e.g. for dry internal conditions, galvanised steel (gvz); for damp interior, stainless steel (R) and exterior conditions, e.g. material 1.4362, 1.4401.

<sup>3)</sup> In the case of combinations of tensile and shear loads, bending moments and reduced edge and axial spacings (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 to use our anchor design software C-Fix.

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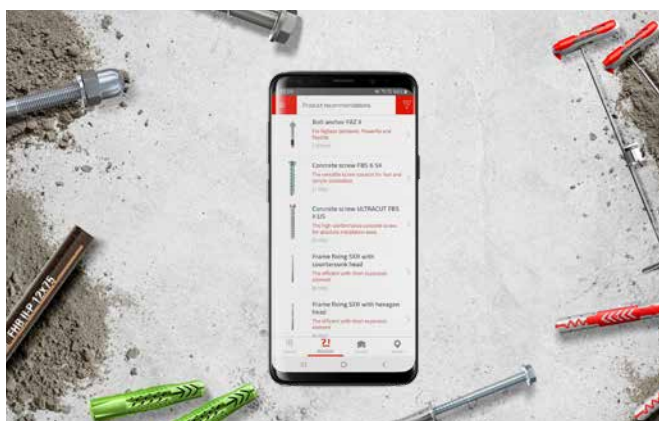
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