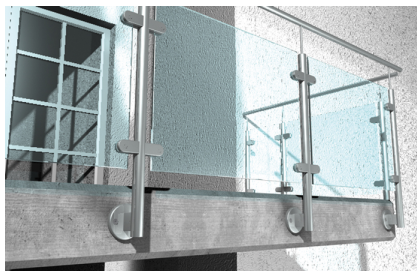


## For høyeste belastning. Kraftig og fleksibel.



### VERSJONER

- galvanisk forsinket stål
- rustfritt stål
- høykorrosjonsbestandig stål

### BYGGEMATERIALER

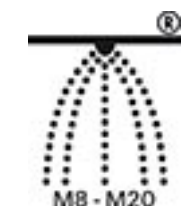
#### Godkjent for:

- Betong C20/25 til C50/60, sprukket og ikke-sprukket

#### Også egnet for:

- Betong C12/15

### GODKJENNINGER



### FORDELER

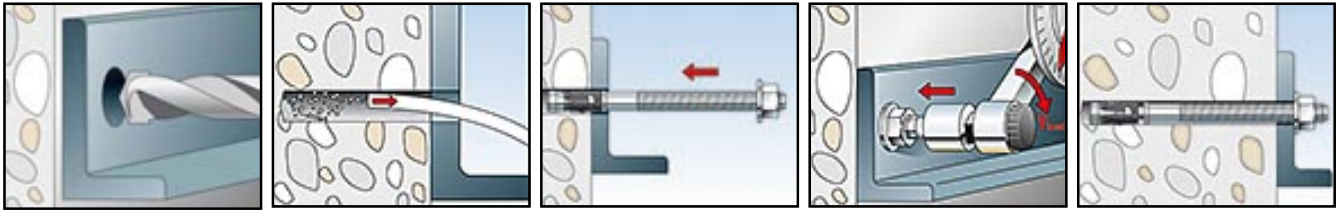
- Den utprøvde ekspansjonsklipsen tillater maksimal kapasitet. Gjennom dette er det behov for færre festepunkter og mindre ankerplater.
- Den reduserte forankringsdybden gjør det mulig med tydelig mindre borehullsdybder og sørger dermed for en tydelig hurtigere montering.
- Få hammerslag og minimal tiltrekningsmoment sørger for en enkel og komfortabel settprosess.
- De internasjonale godkjenningene garanterer maksimal sikkerhet og maksimal ytelsesevne. Også anvendelser i jordskjelvområder (seismikk C1 + C2) er dekket gjennom disse godkjenningene. ICC-godkjenningen gjelder kun ved standard forankringsdybde.

### APPLIKASJONER

- Stålkonstruksjoner
- Gelender
- Konsoller
- Stiger
- Kabelføring
- Maskiner
- Trapper
- Porter
- Fasader
- Trekonstruksjoner

### FUNKSJON/MONTERING

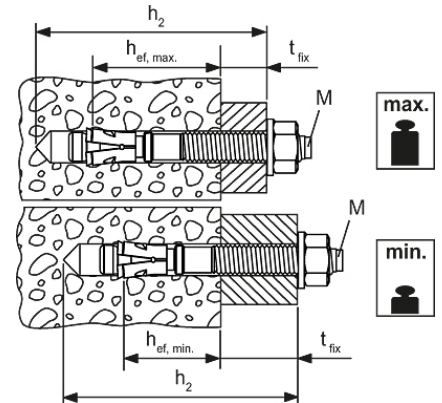
- FAZ II er egnet for plan- og gjennomstikksmontering og gjennom den lange gjengen også optimal for avstandsmonteringer.
- Når mutteren tilspennes trekkes ankerets konus opp i hylsen, som ekspanderer og spenner seg fast i borehullsveggen.
- Når det angitte tiltrekningsmomentet nås, er ankeret satt godkjenningskompatibelt.
- Ved seriemontering anbefaler vi bruken av boltankersetteverktøyet FABS.



## TEKNISK DATA



Sikkerhetsanker FAZ II



galvanized

Produktnavn	Art nr.	ETA-godkjenning	ICC-godkjenning	Seismic-godkjenning	Nominell diameter boremaskin $d_0$ [mm]	Plugglengde $l$ [mm]	maks. påmonteringsd eltykkelse (standard) $t_{fix}$ [mm]	maks. påmonteringsd eltykkelse (redusert) $t_{fix}$ [mm]
FAZ II 8/10	094871	■	▲	C1	8	75	10	20
FAZ II 8/30	094877	■	▲	C1	8	95	30	40
FAZ II 8/50	094878	■	▲	C1	8	115	50	60
FAZ II 8/100	094879	■	▲	C1	8	165	100	110
FAZ II 8/160	503251	■	▲	C1	8	225	160	170
FAZ II 10/10	094981	■	▲	C1 / C2	10	95	10	30
FAZ II 10/20	094982	■	▲	C1 / C2	10	105	20	40
FAZ II 10/30	094983	■	▲	C1 / C2	10	115	30	50
FAZ II 10/50	094984	■	▲	C1 / C2	10	135	50	70
FAZ II 10/80	094985	■	▲	C1 / C2	10	165	80	100
FAZ II 10/100	094986	■	▲	C1 / C2	10	185	100	120
FAZ II 10/160	503252	■	▲		10	245	160	180
FAZ II 12/10	095419	■	▲	C1 / C2	12	110	10	30
FAZ II 12/20	095420	■	▲	C1 / C2	12	120	20	40
FAZ II 12/30	095421	■	▲	C1 / C2	12	130	30	50
FAZ II 12/50	095446	■	▲	C1 / C2	12	150	50	70
FAZ II 12/80	095454	■	▲	C1 / C2	12	180	80	100
FAZ II 12/100	095470	■	▲	C1 / C2	12	200	100	120
FAZ II 12/160	503253	■	▲		12	260	160	180
FAZ II 12/200	095605	■	▲		12	300	200	220
FAZ II 16/5	522124	■	▲	C1 / C2	16	128	5	25
FAZ II 16/25	095836	■	▲	C1 / C2	16	148	25	45
FAZ II 16/50	095864	■	▲	C1 / C2	16	173	50	70
FAZ II 16/100	095865	■	▲	C1 / C2	16	223	100	120
FAZ II 16/160	503254	■	▲	C1 / C2	16	283	160	180
FAZ II 16/200	095967	■	▲		16	323	200	220
FAZ II 16/250	095968	■	▲		16	373	250	270
FAZ II 16/300	096188	■	▲		16	423	300	320
FAZ II 20/30	046632	■	▲	C1 / C2	20	172	30	
FAZ II 20/60	046633	■	▲	C1 / C2	20	202	60	
FAZ II 20/160	503255	■	▲	C1 / C2	20	302	160	
FAZ II 24/30	046635	■	▲	C1	24	205	30	
FAZ II 24/60	046636	■	▲	C1	24	235	60	

## stainless steel A4

Produktnavn	Art nr.	ETA-godkjenning	ICC-godkjenning	Seismic-godkjenning	Nominell diameter boremaskin $d_0$ [mm]	Plugglengde $l$ [mm]	maks. påmonteringsd eltykkelse (standard) $t_{fix}$ [mm]	maks. påmonteringsd eltykkelse (reduisert) $t_{fix}$ [mm]
FAZ II 8/10 A4	501396	■	▲	C1	8	75	10	20
FAZ II 8/30 A4	501399	■	▲	C1	8	95	30	40
FAZ II 8/50 A4	501401	■	▲	C1	8	115	50	60
FAZ II 10/10 A4	501403	■	▲	C1 / C2	10	95	10	30
FAZ II 10/20 A4	501406	■	▲	C1 / C2	10	105	20	40
FAZ II 10/30 A4	501407	■	▲	C1 / C2	10	115	30	50
FAZ II 10/50 A4	501409	■	▲	C1 / C2	10	135	50	70
FAZ II 10/70 A4	501410	■	▲	C1 / C2	10	155	70	90
FAZ II 10/100 A4	501411	■	▲	C1 / C2	10	185	100	120
FAZ II 10/160 A4	501412	■	▲		10	245	160	180
FAZ II 12/10 A4	501413	■	▲	C1 / C2	12	110	10	30
FAZ II 12/20 A4	501415	■	▲	C1 / C2	12	120	20	40
FAZ II 12/30 A4	501416	■	▲	C1 / C2	12	130	30	50
FAZ II 12/50 A4	501419	■	▲	C1 / C2	12	150	50	70
FAZ II 12/60 A4	501420	■	▲	C1 / C2	12	160	80	100
FAZ II 12/100 A4	501421	■	▲	C1 / C2	12	200	100	120
FAZ II 12/160 A4	503180	■	▲		12	260	160	180
FAZ II 16/5 A4	522125	■	▲	C1 / C2	16	128	5	25
FAZ II 16/25 A4	501423	■	▲	C1 / C2	16	148	25	45
FAZ II 16/50 A4	501424	■	▲	C1 / C2	16	173	50	70
FAZ II 16/60 A4	532570	■	▲	C1 / C2	16	183	60	80
FAZ II 16/100 A4	501425	■	▲	C1 / C2	16	223	100	120
FAZ II 20/30 A4	501426	■	▲	C1 / C2	20	172	30	
FAZ II 20/60 A4	503183	■	▲	C1 / C2	20	202	60	
FAZ II 24/30 A4	501427	■	▲	C1	24	205	30	
FAZ II 24/60 A4	503184	■	▲	C1	24	235	60	

highly corrosion-resistant

Produktnavn	Art nr.	ETA-godkjenning	ICC-godkjenning	Seismic-godkjenning	Nominell diameter boremaskin $d_0$ [mm]	Plugglengde $l$ [mm]	maks. påmonteringsd eltykkelse (standard) $t_{fix}$ [mm]	maks. påmonteringsd eltykkelse (redusert) $t_{fix}$ [mm]
FAZ II 8/10 C	501428	■	▲	C1	8	75	10	20
FAZ II 8/30 C	501429	■	▲	C1	8	95	30	40
FAZ II 10/10 C	501430	■	▲	C1	10	95	10	30
FAZ II 10/30 C	503185	■	▲	C1	10	115	30	50
FAZ II 12/10 C	503186	■	▲	C1	12	110	10	30
FAZ II 12/30 C	501431	■	▲	C1	12	130	30	50
FAZ II 16/25 C	501432	■	▲	C1	16	148	25	45
FAZ II 16/50 C	503187	■	▲	C1	16	173	50	70

## LOADS

### Bolt anchor FAZ II

Highest permissible loads for a single anchor<sup>1)</sup> in concrete C20/25<sup>4)</sup>

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

Type	reduced effective anchorage depth $h_{ef,red}^{(6)}$ [mm]	standard effective anchorage depth $h_{ef,sta}^{(6)}$ [mm]	min. member thickness $h_{min}$ [mm]	installation torque $T_{inst}$ [Nm]	Cracked concrete				Non-cracked concrete			
					permissible tensile load $N_{perm}^{(3)}$ [kN]	permissible shear load $V_{perm}^{(3)}$ [kN]	min. spacing $s_{min}^{(2)}$ [mm]	min. edge distance $c_{min}^{(2)}$ [mm]	permissible tensile load $N_{perm}^{(3)}$ [kN]	permissible shear load $V_{perm}^{(3)}$ [kN]	min. spacing $s_{min}^{(2)}$ [mm]	min. edge distance $c_{min}^{(2)}$ [mm]
FAZ II 8	35		80	20	2,4	3,5	40	45	5,0	5,0	40	45
		45	100	20	3,6	6,9	35	40	4,3	6,9	40	40
FAZ II 10	40		80	45	4,3	8,7	40	45	6,1	11,4	40	45
		60	120	45	5,7	11,4	40	45	7,6	11,4	40	45
FAZ II 12	50		100	60	6,1	13,9	50	55	8,5	16,9	50	55
		70	140	60	9,5	16,9	50	55	11,9	16,9	50	55
FAZ II 16	65		140	110	9,0	20,7	65	65	12,6	29,0	65	65
		85	170	110	13,4	31,4	65	65	18,8	31,4	65	65
FAZ II 20		100	200	200	17,1	40,0	95	85	24,0	40,0	95	95
FAZ II 24		125	250	270	24,0	49,1	100	100	33,6	49,1	100	135

<sup>1)</sup> The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered. As an 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 assessment.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load for the minimum member thickness ( $h_{min} \geq 2 \times h_{ef}$ ). The combination of the given min. spacing and min. edge distance is not possible. One of them has to be increased according assessment.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> According assessment the minimum member thickness ( $h_{min} \geq 2 \times h_{ef}$ ) can be reduced under specific conditions.

<sup>6)</sup> The anchorage depths smaller than 40 mm are only allowed for multiple use for non-structural applications.

<sup>10)</sup> The given loads refer to the European Technical Assessment ETA-05/0069, issue date 05.08.2016. Design of the loads according Design method ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

<sup>12)</sup> Drill method Hammer drilling. For further allowable application conditions see assessment.

## LOADS

### Bolt anchor FAZ II A4

Highest permissible loads for a single anchor<sup>1)</sup> in concrete C20/25<sup>4)</sup>

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

Type	reduced effective anchorage depth $h_{ef,red}^{(6)}$ [mm]	standard effective anchorage depth $h_{ef,sta}^{(6)}$ [mm]	min. member thickness $h_{min}$ [mm]	installation torque $T_{inst}$ [Nm]	Cracked concrete				Non-cracked concrete			
					permissible tensile load $N_{perm}^{(3)}$ [kN]	permissible shear load $V_{perm}^{(3)}$ [kN]	min. spacing $s_{min}^{(2)}$ [mm]	min. edge distance $c_{min}^{(2)}$ [mm]	permissible tensile load $N_{perm}^{(3)}$ [kN]	permissible shear load $V_{perm}^{(3)}$ [kN]	min. spacing $s_{min}^{(2)}$ [mm]	min. edge distance $c_{min}^{(2)}$ [mm]
FAZ II 8 A4	35		80	20	2,4	3,5	40	45	5,0	5,0	40	45
		45	100	20	3,6	10,1	35	40	4,3	10,1	40	40
FAZ II 10 A4	40		80	45	4,3	8,7	40	45	6,1	12,2	40	45
		60	120	45	5,7	13,6	40	45	7,6	13,6	40	45
FAZ II 12 A4	50		100	60	6,1	13,9	50	55	8,5	19,6	50	55
		70	140	60	9,5	20,9	50	55	11,9	20,9	50	55
FAZ II 16 A4	65		140	110	9,0	20,7	65	65	12,6	29,0	65	65
		85	170	110	13,4	37,6	65	65	18,8	40,5	65	65
FAZ II 20 A4		100	200	200	17,1	48,0	95	85	24,0	53,9	95	95
FAZ II 24 A4		125	250	270	24,0	67,1	100	100	33,6	79,0	100	135

<sup>1)</sup> The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered. As an 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 assessment.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load for the minimum member thickness ( $h_{min} \geq 2 \times h_{ef}$ ). The combination of the given min. spacing and min. edge distance is not possible. One of them has to be increased according assessment.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> According assessment the minimum member thickness ( $h_{min} \geq 2 \times h_{ef}$ ) can be reduced under specific conditions.

<sup>6)</sup> The anchorage depths smaller than 40 mm are only allowed for multiple use for non-structural applications.

<sup>10)</sup> The given loads refer to the European Technical Assessment ETA-05/0069, issue date 05.08.2016. Design of the loads according Design method ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

<sup>12)</sup> Drill method Hammer drilling. For further allowable application conditions see assessment.

## LOADS

### Bolt anchor FAZ II C

Highest permissible loads for a single anchor<sup>1)</sup> in concrete C20/25<sup>4)</sup>

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

Type	reduced effective anchorage depth $h_{ef,red}^{6)}$ [mm]	standard effective anchorage depth $h_{ef,sta}^{6)}$ [mm]	min. member thickness $h_{min}$ [mm]	installation torque $T_{inst}$ [Nm]	Cracked concrete				Non-cracked concrete			
					permissible tensile load $N_{perm}^{3)}$ [kN]	permissible shear load $V_{perm}^{3)}$ [kN]	min. spacing $s_{min}^{2)}$ [mm]	min. edge distance $c_{min}^{2)}$ [mm]	permissible tensile load $N_{perm}^{3)}$ [kN]	permissible shear load $V_{perm}^{3)}$ [kN]	min. spacing $s_{min}^{2)}$ [mm]	min. edge distance $c_{min}^{2)}$ [mm]
FAZ II 8 C	35		80	20	2,4	3,5	40	45	5,0	5,0	40	45
		45	100	20	3,6	10,1	35	40	4,3	10,1	40	40
FAZ II 10 C	40		80	45	4,3	8,7	40	45	6,1	12,2	40	45
		60	120	45	5,7	13,6	40	45	7,6	13,6	40	45
FAZ II 12 C	50		100	60	6,1	13,9	50	55	8,5	19,6	50	55
		70	140	60	9,5	20,9	50	55	11,9	20,9	50	55
FAZ II 16 C	65		140	110	9,0	20,7	65	65	12,6	29,0	65	65
		85	170	110	13,4	37,6	65	65	18,8	40,5	65	65
FAZ II 20 C		100	200	200	17,1	48,0	95	85	24,0	53,9	95	95
FAZ II 24 C		125	250	270	24,0	67,1	100	100	33,6	79,0	100	135

<sup>1)</sup> The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered. As an 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 assessment.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load for the minimum member thickness ( $h_{min} \geq 2 \times h_{ef}$ ). The combination of the given min. spacing and min. edge distance is not possible. One of them has to be increased according assessment.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> According assessment the minimum member thickness ( $h_{min} \geq 2 \times h_{ef}$ ) can be reduced under specific conditions.

<sup>6)</sup> The anchorage depths smaller than 40 mm are only allowed for multiple use for non-structural applications.

<sup>10)</sup> The given loads refer to the European Technical Assessment ETA-05/0069, issue date 05.08.2016. Design of the loads according Design method ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

<sup>12)</sup> Drill method Hammer drilling. For further allowable application conditions see assessment.