

High performance anchor FH II-S

zinc plated steel / stainless steel A4

Permissible loads of a single anchor in cracked normal concrete (concrete tension zone) of strength class C20/25 (~B25) ^{1) 2) 3) 8)}										Minimum spacings while reducing the load	
Type	Material fixing element	Minimum member thickness	Effective anchorage depth	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load c	Max. shear load c			
		h_{min} [mm]	h_{ef} [mm]	T_{inst} [Nm]	$N_{perm}^{5)}$ [kN]	$V_{perm}^{5)}$ [kN]	[mm]	[mm]	[mm]	[mm]	[mm]
FH II 10 S	gvz	80	40	10	3,6	4,3	50	105	120	40	40
	A4			15							
FH II 12 S	gvz	120	60	22,5	5,7	15,9	60	320	180	50	50
	A4			25							
FH II 15 S	gvz	140	70	40	7,6	20,1	75	365	210	60	60
	A4										
FH II 18 S	gvz	160	80	80	11,9	24,5	120	410	240	70	70
	A4			100							
FH II 24 S	gvz	200	100	160	17,1	34,3	150	495	300	80	80
	A4										
FH II 28 S ⁴⁾	gvz	250	125	180	24,0	47,9	190	610	375	100	100
FH II 32 S ⁴⁾	gvz	300	150	200	31,5	63,0	225	720	450	120	120

For the design the complete assessment ETA-07/0025 has to be considered.⁷⁾

¹⁾ The partial safety factors for material resistance as regulated in the ETA-07/0025 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 $s \geq 3 \cdot h_{ef}$ and an edge distance $c \geq 1,5 \cdot h_{ef}$. Accurate data see ETA-07/0025.

²⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

³⁾ Drill method hammer drilling resp. hollow drilling.

⁴⁾ Drill method hollow drilling is not permitted for this size.

⁵⁾ For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.

⁶⁾ Minimum possible spacing resp. edge distance while reducing the permissible load for the required minimum member thickness. The combination of minimum edge distance and minimum spacing is not possible. One of both values has to be increased acc. ETA-07/0025.

⁷⁾ The given loads refer to the European Technical Assessment ETA-07/0025, issue date 28.08.2018. Design of the loads according to FprEN 1992-4:2016 and EOTA Technical Report TR 055 (for static resp. quasi-static loads).

⁸⁾ A reinforcement in the concrete to prevent splitting is required. The width of the cracks has to be limited under consideration of the splitting forces at $w_k \sim 0.3mm$.

High performance anchor FH II-S

zinc plated steel / stainless steel A4

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25) ^{1) 2) 3)}										Minimum spacings while reducing the load	
Type	Material fixing element	Minimum member thickness	Effective anchorage depth	Installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load c	Max. shear load c			
		h_{min} [mm]	h_{ef} [mm]	T_{inst} [Nm]	$N_{perm}^{(5)}$ [kN]	$V_{perm}^{(5)}$ [kN]	[mm]	[mm]	[mm]	[mm]	[mm]
FH II 10 S	gvz	80	40	10	6,1	6,1	95	100	120	40	40
	A4			15							
FH II 12 S	gvz	120	60	22,5	11,2	18,9	150	265	180	60	60
	A4			25							
FH II 15 S	gvz	140	70	40	14,1	28,2	160	365	210	70	70
	A4										
FH II 18 S	gvz	160	80	80	17,2	34,4	170	405	240	80	80
	A4			100							
FH II 24 S	gvz	200	100	160	24,0	48,1	190	495	300	100	100
	A4										
FH II 28 S ⁴⁾	gvz	250	125	180	33,6	67,2	240	605	375	120	120
FH II 32 S ⁴⁾	gvz	300	150	200	44,2	88,4	285	715	450	160	180

For the design the complete assessment ETA-07/0025 has to be considered.⁷⁾

¹⁾ The partial safety factors for material resistance as regulated in the ETA-07/0025 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 $s \geq 3 \cdot h_{ef}$ and an edge distance $c \geq 1,5 \cdot h_{ef}$. Accurate data see ETA-07/0025.

²⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

³⁾ Drill method hammer drilling resp. hollow drilling.

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⁵⁾ For combinations of tensile loads and shear loads or for shear loads with lever arm (bending moments) as well as reduced edge distances or spacings (anchor groups) we recommend to use our anchor design software C-FIX.

⁶⁾ Minimum possible spacing resp. edge distance while reducing the permissible load for the required minimum member thickness. The combination of minimum edge distance and minimum spacing is not possible. One of both values has to be increased acc. ETA-07/0025.

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