

Fastening in concrete with the professional system Pure Epoxy BRSF

Permissible loads F_{per} in [kN] in non-cracked (Option 7) concrete C20/25 and cracked (Option 1) concrete C20/25 for single anchor without influence of spacing and edge distance, installation parameters and unit dimensions. Total safety factors as per ETAG 001 included (γ_m und γ_p). Design according to TR029. See ETA-approval for design and calculations.

Anchor rods RESI AST, VA AST		M8	M10	M12	M16	M20	M24	M30
Drill hole \varnothing	d_0 [mm]	10	12	14	18	24	28	35
Embedment depth	$h_{ef,min}/h_{ef,stand}/h_{ef,max}$ [mm]	60/80/96	60/90/120	70/110/144	80/125/192	90/170/240	96/210/288	120/280/360

Tension load ¹⁾²⁾ (24 °C/40 °C) ³⁾ non-cracked concrete

Zinc plated 5.8	N_{per} [kN]	8,6/8,6/8,6	9,3/13,8/13,8	11,7/20,0/20,0	14,3/28,0/37,1	14,7/38,1/58,1	16,2/52,3/83,8	22,6/80,5/117,3
Stainless steel A4	N_{per} [kN]	9,3/9,9/9,9	9,3/15,7/15,7	11,7/22,5/22,5	14,3/28,0/42,0	14,7/38,1/63,9	16,2/52,3/84,0	22,6/70,2/70,2

Tension load ¹⁾²⁾ (24 °C/40 °C) ³⁾ cracked concrete

Zinc plated 5.8	N_{per} [kN]	-	-	7,9/12,3/16,2	10,2/16,2/24,9	10,5/21,8/30,8	11,5/29,6/40,6	16,1/49,4/63,5
Stainless steel A4	N_{per} [kN]	-	-	7,9/12,3/16,2	10,2/16,2/24,9	10,5/21,8/30,8	11,5/29,6/40,6	16,1/49,4/63,5

Tension load ¹⁾²⁾ (43 °C/60 °C) ³⁾ non-cracked concrete

Zinc plated 5.8	N_{per} [kN]	6,8/8,6/8,6	7,1/10,7/13,8	9,4/14,8/19,4	13,6/21,2/32,6	14,7/29,1/41,0	16,2/40,4/55,4	22,6/67,3/86,6
Stainless steel A4	N_{per} [kN]	6,8/9,1/9,9	7,1/10,7/14,2	9,4/14,8/19,4	13,6/21,2/32,6	14,7/29,1/41,0	16,2/40,4/55,4	22,6/67,3/70,2

Tension load ¹⁾²⁾ (43 °C/60 °C) ³⁾ cracked concrete

Zinc plated 5.8	N_{per} [kN]	-	-	4,7/7,4/9,7	6,4/10,0/15,3	6,7/12,7/18,0	8,6/18,8/25,9	13,5/31,4/40,4
Stainless steel A4	N_{per} [kN]	-	-	4,7/7,4/9,7	6,4/10,0/15,3	6,7/12,7/18,0	8,6/18,8/25,9	13,5/31,4/40,4

Shear load ¹⁾ non-cracked concrete

Zinc plated 5.8	V_{per} [kN]	5,1	8,6	12,0	22,3	34,9	45,2/50,3/50,3	63,2/80,0/80,0
Stainless steel A4	V_{per} [kN]	6,0	9,2	13,7	25,2	39,4	45,2/56,8/56,8	42,0/80,0/80,0

Shear load ¹⁾ cracked concrete

Zinc plated 5.8	V_{per} [kN]	5,1	8,6	12,0	22,3	29,3/34,9/34,9	32,2/50,3/50,3	45,1/80,0/80,0
Stainless steel A4	V_{per} [kN]	6,0	9,2	13,7	24,5	29,3/39,4/39,4	32,2/56,8/56,8	42,0/80,0/80,0

Bending moment (Zinc plated 5.8)	M_{per} [Nm]	10,9	21,1	37,1	94,9	185,1	320,0	641,7
Bending moment (Stainless steel A4)	M_{per} [Nm]	11,9	23,8	42,1	106,2	207,9	359,0	337,6

Spacing and edge distance

Spacing ⁴⁾	$s_{cr,N}$ [mm]	226	270	330	375	510	607	759
Edge distance ⁴⁾	$c_{cr,N}$ [mm]	113	135	165	188	255	304	380
Minimum spacing distance	s_{min} [mm]	40	50	60	80	100	120	150
Minimum edge distance	c_{min} [mm]	40	50	60	80	100	120	150
Minimum thickness of concrete	h_{min} [mm]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$				$h_{ef} + 2d_0$		
Installation torque	$T_{inst} \leq$ [Nm]	10	20	40	80	120	160	200

¹⁾ Values are valid for $h_{ef,min}/h_{ef,stand}/h_{ef,max}$.

²⁾ Increasing factors for cracked and non-cracked concrete C30/37 = 1.04, C40/50 = 1.08, C50/60 = 1.10.

³⁾ Max. long term temperature / max. short term temperature after installation.

⁴⁾ Depends on h_{ef} . Values are valid for $h_{ef,stand}$.

If underrun the char. space or edge distance (C_{cr} or S_{cr}) the loads must be reduced. h_{min} , s_{min} and C_{min} shall not remain under the given minimum values.

