Fastening injection system ResiFIX Pure Epoxy Plus EPP SF

Approvals and certificates

European Technical Assessment Option 1 for cracked concrete (M8 – M30, Ø8 – Ø32)

European Technical Assessment for post-installed rebar connections (Ø8 - Ø40)

MADE IN GERMANY

100 YEARS

Service life of the product: 100 years based on the ETA
- **Long-lasting and safe**

Class A+: Lowest emissions of critical substances in closed spaces
- **Harmless to health after curing**

Sustainability certification LEED
- **Environmentally friendly, low-pollutant, low-emission and sustainable construction product**

Usage under seismic conditions
- **Tested for use in areas with high risk of earthquakes**

Option 1 (M8 – M30, Ø8 – Ø32)

European Technical Assessment Option 1 for cracked and non-cracked concrete (M8 - M30)
- **For a wide range of safety critical applications**

Diamond drilling is approved
- **Premium product**

One mixing nozzle and one extension tube are always included
- **Deeper drill holes can also be filled**

2,010 Kg M12-110mm C20/25

Very high load values
- **Heavy-duty usage**

Waterfilled drill holes

Usage also in water-filled drill holes and suitable for contact with drinking water
- **Extended range of applications**

R 120

Fire resistance report R120
- **Fulfills fire protection requirements**

Rebar (Ø8 – Ø40)

European Technical Assessment post-installed rebar connections (Ø8 - Ø40)
- **For more application flexibility**

STYRENE FREE

Styrene free
- **Reduced odour exposure**

Pure Epoxy EPP SF (styrene free)

Type	Art-No	Content [ml]	Mixings nozzles included [pcs]	Mixings nozzle extension (200mm) incl. [pcs]	Shelf life [months]	ETA	€ / pc	[pcs]
EPP 440 SF *	440EPPSF	385	1	1	24	●		12
EPP 585 SF [1]	585EPPSF	585	1	1	24	●		12
EPP 1400 SF *	1400EPPSF	1400	1	1	24	●		12

* Delivery time on request

[1] Delivery quantity on request

Curing times ResiFIX Pure Epoxy EPP SF

Temperature of building material	[°C]	> -10	> -5	> 0	> +5	> +10	> +15	> +20	> +25	> +35	> +40
Max. working time	[min]	–	–	90	80	60	40	**30**	12	8	8
Min. curing time [1]	[min]	–	–	144h	48h	28h	18h	**12h**	9h	6h	4h

[1] Double curing time in wet concrete

Fastening in concrete

Permissible loads F_{per} in [kN] for a service life of 50 years in non-cracked concrete C20/25 (Option 7) and cracked concrete C20/25 (Option 1) without influence of edge distances and spacing ($c \geq 10 \times h_{ef}$ or 60 d, $s \geq 3 \times h_{ef}$, $h \geq 2 \times h_{ef}$) as well as installation parameters and unit dimensions. F_{per} includes the partial safety factors for the resistance from the ETA and a partial safety factor for the actions of γF = 1.4. The ETA assessment must be observed in the design.

Anchor studs RESI AST, VA AST			M8	M10	M12	M16	M20	M24	M 27	M30
Drill hole Ø	d_0	[mm]	10	12	14	18	22	28	30	35
Anchorage depth $h_{ef,min}$ / $h_{ef,stand}$ / $h_{ef,max}$		[mm]	60 / 80 / 160	60 / 90 / 200	70 / 110 / 240	80 / 125 / 320	90 / 170 / 400	96 / 210 / 480	108 / 240 / 540	120 / 280 / 600
Permissible tension load [1] [2] (24 °C / 40 °C) [3] in non-cracked concrete (dry or wet)										
Zinc plated 5.8	N_{zul}	[kN]	8,7	10,9 / 13,8 / 13,8	13,7 / 20,1 / 20,1	16,8 / 32,7 / 37,3	20,0 / 51,9 / 58,3	22,0 / 71,3 / 83,9	26,3 / 87,1 / 109,4	30,8 / 109,8 / 133,5
Stainless steel A4 [4]	N_{zul}	[kN]	9,8	10,9 / 15,5 / 15,5	13,7 / 22,5 / 22,5	16,8 / 32,7 / 41,9	20,0 / 51,9 / 65,5	22,0 / 71,3 / 94,2	26,3 / 57,4 / 57,4	30,8 / 70,0 / 70,0
Permissible tension load [1] [2] (24 °C / 40 °C) [3] in cracked concrete (dry or wet)										
Zinc plated 5.8	N_{zul}	[kN]	5,0 / 6,7 / 8,7	6,3 / 9,4 / 13,8	9,6 / 16,8 / 20,1	11,7 / 22,9 / 37,3	14,0 / 36,3 / 58,3	15,4 / 49,9 / 83,9	18,4 / 61,0 / 109,4	21,6 / 76,8 / 133,5
Stainless steel A4 [4]	N_{zul}	[kN]	5,0 / 6,7 / 9,8	6,3 / 9,4 / 15,5	9,6 / 16,8 / 22,5	11,7 / 22,9 / 41,9	14,0 / 36,3 / 65,5	15,4 / 49,9 / 94,2	18,4 / 57,4 / 57,4	21,6 / 70,0 / 70,0
Permissible tension load [1] [2] (50 °C / 72 °C) [3] in non-cracked concrete (dry or wet)										
Zinc plated 5.8	N_{zul}	[kN]	8,7	10,9 / 13,8 / 13,8	13,7 / 20,1 / 20,1	16,8 / 32,7 / 37,3	20,0 / 51,9 / 58,3	22,0 / 71,3 / 83,9	26,3 / 87,1 / 109,4	30,8 / 109,8 / 133,5
Stainless steel A4 [4]	N_{zul}	[kN]	9,8	10,9 / 15,5 / 15,5	13,7 / 22,5 / 22,5	16,8 / 32,7 / 41,9	20,0 / 51,9 / 65,5	22,0 / 71,3 / 94,2	26,3 / 57,4 / 57,4	30,8 / 70,0 / 70,0
Permissible tension load [1] [2] (50 °C / 72 °C) [3] in cracked concrete (dry or wet)										
Zinc plated 5.8	N_{zul}	[kN]	4,3 / 5,7 / 8,7	6,3 / 9,4 / 13,8	8,8 / 13,8 / 20,1	11,7 / 20,9 / 37,3	14,0 / 35,6 / 58,3	15,4 / 49,9 / 83,9	18,4 / 61,0 / 109,4	21,6 / 76,8 / 133,5
Stainless steel A4 [4]	N_{zul}	[kN]	4,3 / 5,7 / 9,8	6,3 / 9,4 / 15,5	8,8 / 13,8 / 22,5	11,7 / 20,9 / 41,9	14,0 / 35,6 / 65,5	15,4 / 49,9 / 94,2	18,4 / 57,4 / 57,4	21,6 / 70,0 / 70,0
Permissible shear load [1] in non-cracked concrete										
Zinc plated 5.8	V_{zul}	[kN]	5,2	8,3	12,0	22,4	35,0	44,1 / 50,4 / 50,4	52,6 / 65,6 / 65,6	61,6 / 80,1 / 80,1
Stainless steel A4 [4]	V_{zul}	[kN]	5,9	9,3	13,5	25,1	39,2	44,1 / 56,5 / 56,5	52,6 / 52,6 / 52,6	61,6 / 64,2 / 64,2
Permissible shear load [1] in cracked concrete										
Zinc plated 5.8	V_{zul}	[kN]	5,2	8,3	12,0	22,4 / 22,4 / 22,4	28,0 / 35,0 / 35,0	30,8 / 50,4 / 50,4	36,8 / 65,6 / 65,6	43,1 / 80,1 / 80,1
Stainless steel A4 [4]	V_{zul}	[kN]	5,9	9,3	13,5	23,5 / 25,1 / 25,1	28,0 / 39,2 / 39,2	30,8 / 56,5 / 56,5	36,8 / 52,6 / 52,6	43,1 / 64,2 / 64,2
Zulässiges Biegemoment Zinc plated 5.8	M_{zul}	[Nm]	10,7	21,4	37,4	94,9	185,2	320,0	476,2	642,1
Zulässiges Biegemoment Stainless steel A4 [4]	M_{zul}	[Nm]	12,0	24,0	41,9	106,4	207,8	359,0	249,7	337,6
Spacing and edge distance										
Spacing	s_{crN}	[mm]	180 / 240 / 480	180 / 270 / 600	210 / 330 / 720	240 / 375 / 960	270 / 510 / 1200	288 / 630 / 1440	324 / 720 / 1620	360 / 840 / 1800
Edge distance	c_{crN}	[mm]	90 / 120 / 240	90 / 135 / 300	105 / 165 / 360	120 / 188 / 480	135 / 255 / 600	144 / 315 / 720	162 / 360 / 810	180 / 420 / 900
Minimum spacing	s_{min}	[mm]	40	50	60	75	95	155	125	140
Minimum edge distance	c_{min}	[mm]	35	40	45	50	60	65	75	80
Min. thickness of concrete	h_{min}	[mm]	$h_{ef} + 30\,mm \geq 100\,mm$			$h_{ef} + 2d_0$				
Max. installation torque	$T_{inst} \leq$	[Nm]	10	20	40	60	100	170	250	300

Characteristic loads F_{char} in [kN] for a service life of 100 years please refer to the ETA.

The load values apply to hammer-drilled and compressed air-drilled holes (for hollow drill bits and diamond-drilled holes see ETA).

1) Values apply to $h_{ef,min}$ / $h_{ef,stand}$ / $h_{ef,max}$

2) Increase factor for cracked and non-cracked concrete C25/30=1.02, C30/37 = 1.04, C35/45 = 1.07, C40/50 = 1.08, C45/55 = 1.09, C50/60 = 1.10

3) Max. Long-term temperature / max. short-term temperature in installed condition.

4) Stainless steel A4: M8-M24: Class 70, M27 and M30: Class 50

The load capacity must be reduced if the char. edge/spacing distance (C_{cr} or S_{cr}) is not reached. h_{min}, S_{min} and C_{min} must be observed