Fastening injection system ResiFIX Pure Epoxy

Approvals and certificates

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

European Technical Assessment for post-installed rebar connections (Ø8 - Ø25)

MADE IN GERMANY

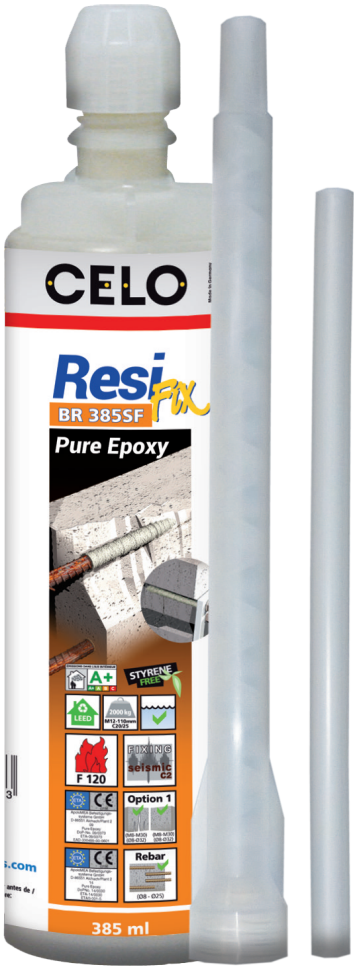
Class A+: Lowest emissions of critical substances in closed spaces
- **Harmless to health after curing**

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**

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

(M8 – M30, Ø8 – Ø32)



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

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

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

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

see assessment

European Technical Assessment post-installed rebar connections (Ø8 - Ø25)
- **For more application flexibility**

(Ø8 – Ø25)

Styrene free
- **Reduced odour exposure**

Pure Epoxy BRSF (styrene free)

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

Delievery only on request

Curing times ResiFIX Pure Epoxy BRSF

Temperature of building material	[°C]	> -10	> -5	> 0	> +5	> +10	> +20	> +30	> +40
Max. working time	[min]	–	–	–	120	90	**30**	20	12
Min. curing time [1]	[min]	–	–	–	50h	30h	**10h**	6h	4h

[1] Double curing time in wet concrete

Fastening in concrete

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

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	24	28	30	35
Anchorage 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	108 / 240 / 324	120 / 280 / 360
Permissible tension load [1] [2] (24 °C / 40 °C) [3] in non-cracked concrete (dry or wet)										
Zinc plated 5.8	N_{per}	[kN]	8,7 / 8,7 / 8,7	9,3 / 13,8 / 13,8	11,7 / 20,0 / 20,0	14,3 / 28,0 / 37,3	14,7 / 38,1 / 58,3	16,2 / 52,3 / 83,9	19,8 / 63,9 / 98,8	22,6 / 80,5 / 117,3
Stainless steel A4	N_{per}	[kN]	9,0 / 9,8 / 9,8	9,3 / 15,5 / 15,5	11,7 / 22,5 / 22,5	14,3 / 28,0 / 41,9	14,7 / 38,1 / 63,9	16,2 / 52,3 / 84,0	19,8 / 57,4 / 57,4	22,6 / 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_{per}	[kN]	4,2 / 5,6 / 6,7	5,2 / 7,9 / 10,5	7,9 / 12,3 / 16,2	10,2 / 16,2 / 24,9	10,5 / 21,8 / 30,8	11,5 / 29,6 / 40,6	14,1 / 38,1 / 50,8	16,1 / 49,4 / 63,5
Stainless steel A4	N_{per}	[kN]	4,2 / 5,6 / 6,7	5,2 / 7,9 / 10,5	7,9 / 12,3 / 16,2	10,2 / 16,2 / 24,9	10,5 / 21,8 / 30,8	11,5 / 29,6 / 40,6	14,1 / 38,1 / 50,8	16,1 / 49,4 / 63,5
Permissible tension load [1] [2] (43 °C / 60 °C) [3] in non-cracked concrete (dry or wet)										
Zinc plated 5.8	N_{per}	[kN]	5,7 / 7,6 / 8,7	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	19,8 / 51,9 / 69,2	22,6 / 67,3 / 86,6
Stainless steel A4	N_{per}	[kN]	5,7 / 7,6 / 9,1	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	19,8 / 51,9 / 57,4	22,6 / 67,3 / 70,0
Permissible tension load [1] [2] (43 °C / 60 °C) [3] in cracked concrete (dry or wet)										
Zinc plated 5.8	N_{per}	[kN]	2,7 / 3,6 / 4,3	3,4 / 5,0 / 6,7	4,7 / 7,4 / 9,7	6,4 / 10,0 / 15,3	6,7 / 12,7 / 18,0	8,6 / 18,8 / 25,9	11,1 / 24,2 / 32,3	13,5 / 31,4 / 40,4
Stainless steel A4	N_{per}	[kN]	2,7 / 3,6 / 4,3	3,4 / 5,0 / 6,7	4,7 / 7,4 / 9,7	6,4 / 10,0 / 15,3	6,7 / 12,7 / 18,0	8,6 / 18,8 / 25,9	11,1 / 24,2 / 32,3	13,5 / 31,4 / 40,4
Permissible shear load [1] in non-cracked concrete										
Zinc plated 5.8	V_{per}	[kN]	5,2	8,3	12,0	22,4	35,0	45,2 / 50,4 / 50,4	55,5 / 65,6 / 65,6	63,2 / 80,1 / 80,1
Stainless steel A4	V_{per}	[kN]	5,9	9,3	13,5	25,1	39,2	45,2 / 56,5 / 56,5	34,5 / 34,5 / 34,5	42,1 / 42,1 / 42,1
Permissible shear load [1] in cracked concrete										
Zinc plated 5.8	V_{per}	[kN]	5,2	8,3	12,0	22,4 / 22,4 / 22,4	29,3 / 35,0 / 35,0	32,2 / 50,4 / 50,4	39,6 / 65,6 / 65,6	45,1 / 80,1 / 80,1
Stainless steel A4	V_{per}	[kN]	5,9	9,3	13,5	24,5 / 25,1 / 25,1	29,3 / 39,2 / 39,2	32,2 / 56,5 / 56,5	34,5 / 34,5 / 34,5	42,1 / 42,1 / 42,1
Permissible bending moment (Zinc plated 5.8)	M_{per}	[Nm]	10,7	21,4	37,4	94,9	185,2	320,0	476,2	642,1
Permissible bending moment (Stainless steel A4)	M_{per}	[Nm]	12,0	24,0	41,9	106,4	207,8	359,0	250,1	337,2
Spacing and edge distance										
Spacing	$s_{cr,N}$	[mm]	180 / 240 / 288	180 / 270 / 360	210 / 330 / 432	240 / 375 / 576	270 / 510 / 720	288 / 630 / 864	324 / 720 / 972	360 / 840 / 1080
Edge distance	$c_{cr,N}$	[mm]	90 / 120 / 144	90 / 135 / 180	105 / 165 / 216	120 / 188 / 288	135 / 255 / 360	144 / 315 / 432	162 / 360 / 486	180 / 420 / 540
Minimum spacing	s_{min}	[mm]	40	50	60	80	100	120	135	150
Minimum edge distance	c_{min}	[mm]	40	50	60	80	100	120	135	150
Min. thickness of concrete	h_{min}	[mm]	h_{ef} + 30 mm ≥ 100 mm			h_{ef} + $2d_0$				
Max. installation torque	T_{inst} ≤	[Nm]	10	20	40	80	120	160	180	200

[1] Values are valid for $h_{ef,min}$ / $h_{ef,stand}$ / $h_{ef,max}$

[2] For higher concrete strengths up to C50/60 the values increase by max. 10%.

[3] Max. long term temperature / max. short term temperature after installation. For temperature range 43°C/72°C please see ETA assessment

If underrun the char. spacing or edge distance (C_{cr} or S_{cr}) the loads must be reduced. h_{min}, S_{min} and C_{min} must be observed.