

CELO

Made in Germany



Injection mortar ResiFIX Pure Epoxy



EPP

EP





ResiFIX Pure Epoxy in comparison

ResiFIX Pure Epoxy		
	Plus EPP SF	EP SF
	585	585
		
Content [ml]	585	585
Nozzles included		
Types	Standard	
Shelf life*	24 months	
 Threaded rod	steel 4.6, 5.8, 8.8 stainless steel	
Reinforcing bars 	✓	
 Approval for cracked concrete (Option 1)	 M8 - M30, Ø8 - Ø32	
 Approval for non-cracked concrete (Option 7)	 M8 - M30, Ø8 - Ø32	
 Approval for post-installed rebar connections	 Ø8 - Ø40	 Ø8 - Ø40
 Approval for diamond drilled holes	✓	✓ only post-installed rebar connection
 Approval for 100 years	✓	50 years
 Fire test certification		 only post-installed rebar connection
 Usage under seismic action		✗
  Low emissions	✓	
 Styrene free	✓	
Performance in non-cracked concrete C20/25 (M10-90, 5.8)		
Wet drill holes	✓	
 Waterfilled drill holes	✓	
Suitable for contact with drinking water	✓	✗
Min. temperature of base material	≥ 0°C	≥ +5°C
Temperature range after complete curing	-40°C to +72°C	
Chemical resistance	excellent	
Odour	marginal	

Risk of staining in natural stone! Before use, we recommend a 5-days test (there is no risk with Pure Epoxy BRSF).
*All cartridges can be used until the expiration date by resealing with the cap or by replacing the static mixer.

Fastening injection system **ResiFIX** **Pure Epoxy**

Overview



Injection mortar ResiFIX Pure Epoxy EPP (styrene free)



Injection mortar ResiFIX Pure Epoxy EP (styrene free)



Suitable building materials

Very suitable



- Concrete



Typical applications

- Steel constructions
- Cantilevers
- Facade substructures
- Machines
- Guard rails
- Canopies
- Distance mountings
- Door and window frames
- Stairways
- Wood constructions
- Cable trays
- Pipe installations

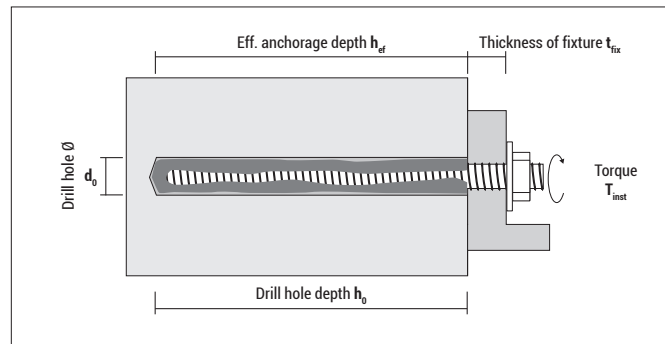
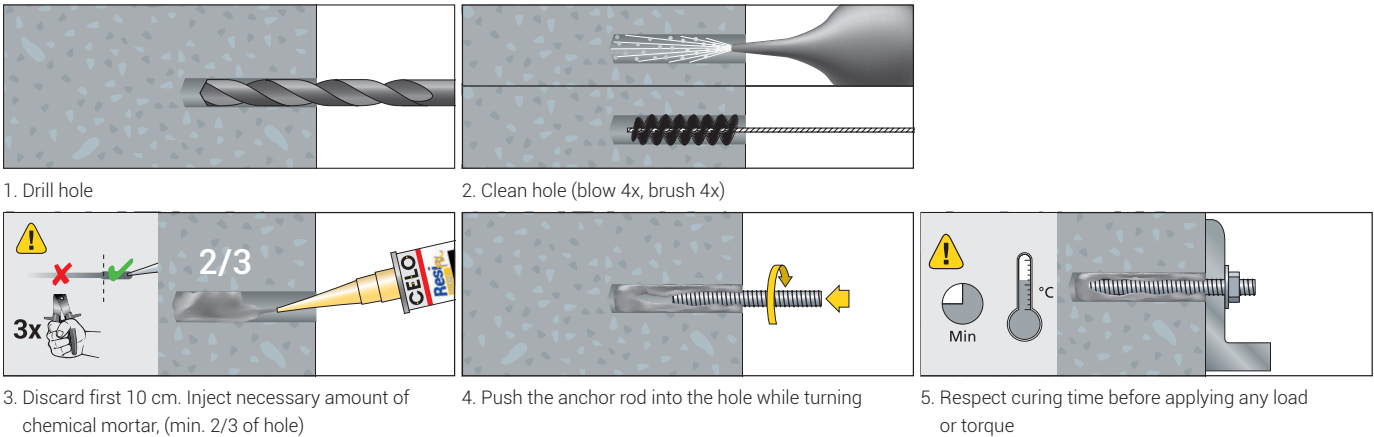
Approvals and certificates



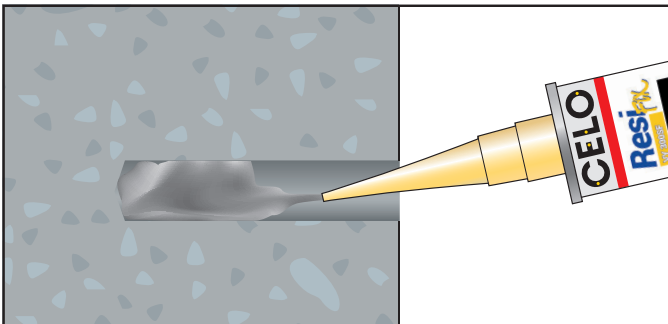
European Technical Assessment
Option 1 for cracked concrete



Mounting in concrete



Estimation of needed volume



Consumption in solid materials

Calculation method: Complete filling of the drill hole*

Anchor stud RAST or VA AST	d_0 [mm]	Drill hole $h_{ef, Stand}^{1)}$ [mm]	Volume [cm ³ =ml]	Number of fixings per ResiFIX cartridge				
				165 ml [fixings]	280 ml [fixings]	300 ml [fixings]	345 ml [fixings]	410 ml [fixings]
M8	10	80	6,3	26,3	44,6	47,8	54,9	65,3
M10	12	90	10,2	16,2	27,5	29,5	33,9	40,3
M12	14	110	17,0	9,7	16,5	17,7	20,4	24,2
M16	18	125	31,8	5,2	8,8	9,4	10,9	12,9
M20	24	170	76,9	2,1	3,6	3,9	4,5	5,3
M24	28	210	129,2	1,3	2,2	2,3	2,7	3,2
M30	35	280	269,3	0,6	1,0	1,1	1,3	1,5

* According to the ETA assessment only 2/3 of the drill hole has to be filled with mortar. The experience shows that the user uses more, so that the filling of the complete drill hole is calculated here.

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)



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**



(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**



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 report R120

- **Fulfills fire protection requirements**



(Ø8 - Ø40)

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

- **For more application flexibility**



Styrene free

- **Reduced odour exposure**





Pure Epoxy EPP SF (styrene free)

Type	Art-No	Content [ml]	Mixings nozzles included [pcs]	Mixings nozzle exten- sion [200mm] incl. [pcs]	Shelf life [months]		€ / 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 $\gamma_F = 1.4$. 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	$s_{cr,N}$ [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	$c_{cr,N}$ [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]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$				$h_{ef} + 2d_0$			
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

Fastening injection system

ResiFIX

Pure Epoxy EP 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)



Class A+: Lowest emissions
of critical substances in
closed spaces

- Harmless to health
after curing



Sustainability certification
LEED

- Environmentally friendly,
low-pollutant, low-emis-
sion and sustainable
construction product



(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



One mixing nozzle and one
extension tube are always
included

- Deeper drill holes can also
be filled



Diamond drilling is approved
(only for post-installed rebar
connections)

- Premium product



Very high load values

- Heavy-duty usage



Usage also in water-filled drill
holes

- Extended range of
applications



Fire resistance report R240

- Valid only for post
installed rebar
connections



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

- For more application
flexibility



Styrene free

- Reduced odour exposure



Pure Epoxy EP SF (styrene free)

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

Delivery time on request

Curing times ResiFIX Pure Epoxy EP SF

Temperature of building material [°C]	> -10	> -5	> 0	> +5	> +10	> +15	> +20	> +25	> +35	> +40
Max. working time [min]	–	–	–	80	60	40	30	12	8	8
Min. curing time ¹⁾ [min]	–	–	–	60h	48h	24h	12h	10h	7h	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 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 $\gamma_F = 1.4$. 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	24	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, wet or waterfilled]

Zinc plated 5.8	N_{zul} [kN]	7,7 / 8,7 / 8,7	7,8 / 13,8 / 13,8	9,8 / 19,3 / 20,1	12,0 / 23,4 / 37,3	14,3 / 37,1 / 58,3	15,7 / 50,9 / 83,9	18,8 / 62,2 / 109,4	22,0 / 78,4 / 133,5
Stainless steel A4 ⁴⁾	N_{zul} [kN]	7,7 / 9,8 / 9,8	7,8 / 14,3 / 15,5	9,8 / 19,3 / 22,5	12,0 / 23,4 / 41,9	14,3 / 37,1 / 65,5	15,7 / 50,9 / 94,2	18,8 / 57,4 / 57,4	22,0 / 70,0 / 70,0

Permissible tension load ^{1) 2)} [24 °C / 40 °C] ³⁾ in cracked concrete [dry, wet or waterfilled]

Zinc plated 5.8	N_{zul} [kN]	3,6 / 4,8 / 8,7	4,5 / 6,7 / 13,8	6,3 / 9,9 / 20,1	8,4 / 15,0 / 37,3	10,0 / 25,4 / 58,3	11,0 / 32,3 / 73,9	13,1 / 41,5 / 93,5	15,4 / 53,9 / 115,4
Stainless steel A4 ⁴⁾	N_{zul} [kN]	3,6 / 4,8 / 9,6	4,5 / 6,7 / 15,0	6,3 / 9,9 / 20,1	8,4 / 15,0 / 38,3	10,0 / 25,4 / 59,8	11,0 / 32,3 / 73,9	13,1 / 41,5 / 57,4	15,4 / 53,9 / 70,0

Permissible tension load ^{1) 2)} [43 °C / 70 °C] ³⁾ in non-cracked concrete [dry, wet or waterfilled]

Zinc plated 5.8	N_{zul} [kN]	3,6 / 4,8 / 8,7	4,5 / 6,7 / 13,8	6,3 / 9,9 / 20,1	8,9 / 13,9 / 35,6	12,5 / 23,6 / 55,6	14,8 / 32,3 / 73,9	18,7 / 41,5 / 93,5	22,0 / 53,9 / 115,4
Stainless steel A4 ⁴⁾	N_{zul} [kN]	3,6 / 4,8 / 9,6	4,5 / 6,7 / 15,0	6,3 / 9,9 / 21,5	8,9 / 13,9 / 35,6	12,5 / 23,6 / 55,6	14,8 / 32,3 / 73,9	18,7 / 41,5 / 57,4	22,0 / 53,9 / 70,0

Permissible tension load ^{1) 2)} [43 °C / 70 °C] ³⁾ in cracked concrete [dry, wet or waterfilled]

Zinc plated 5.8	N_{zul} [kN]	1,8 / 2,4 / 4,8	2,2 / 3,4 / 7,5	3,1 / 4,9 / 10,8	4,8 / 7,5 / 19,1	6,7 / 12,7 / 29,9	7,4 / 16,2 / 36,9	9,3 / 20,8 / 46,7	11,5 / 26,9 / 57,7
Stainless steel A4 ⁴⁾	N_{zul} [kN]	1,8 / 2,4 / 4,8	2,2 / 3,4 / 7,5	3,1 / 4,9 / 10,8	4,8 / 7,5 / 19,1	6,7 / 12,7 / 29,9	7,4 / 16,2 / 36,9	9,3 / 20,8 / 46,7	11,5 / 26,9 / 57,7

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	$s_{cr,N}$ [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	$c_{cr,N}$ [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	115	125	140
Minimum edge distance	c_{min} [mm]	35	40	45	50	60	65	75	80
Min. thickness of concrete	h_{min} [mm]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$				$h_{ef} + 2d_0$			
Max. installation torque	$T_{inst} \leq$ [Nm]	10	20	40	60	100	170	250	300

The load values apply to hammer-drilled and compressed air-drilled holes and in hammer-drilled holes with a hollow drill bit.

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. For temperature range 35°/60°C see ETA.

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.

ResiFIX Accessories



OL385



Manual dispenser OL for ResiFIX Pure Epoxy

Type	Art-No	Suitable for ResiFIX Type	€ / pc	[pcs]
OL 385	385OL	440 / 585		1



Mixing nozzle MD transparent

Type	Art-No	Suitable cartridges	€ / pc	[pcs]	[pcs]
MD	9MRMEA	all, except Pure Epoxy		20	–



Mixings nozzle extension MDV for MD

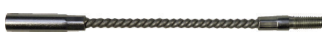
Type	Art-No	Outer Ø [mm]	Length [mm]	€ / pc	[pcs]	[pcs]
MDV 10	9MDV	10	200		10	–
MDV 7,5*	975MDV	7,5	200		10	–

* Especially suitable for metal sleeve SH 12-100 (see page <ÜS>)



Cleaning brush RBS made of steel, for concrete

Type	Art-No	Length [mm]	Brush-Ø [mm]	Suitable for drill hole-Ø [mm]	Suitable for anchor stud	Connecting thread	€ / pc	[pcs]	[pcs]
RBS10	9M12RBK	170	12	10	M8	M6		5	–
RBS12	9M14RBK	170	14	12	M10	M6		5	–
RBS14	9M16RBK	200	16	14	M12	M6		5	–
RBS18	9M20RBK	200	20	18	M16	M6		5	–
RBS24	9M26RBK	250	26	24	M20	M6		5	–
RBS28	9M30RBK	300	30	28	M24	M6		5	–

MRBKV:
Extension
for RBSMRBKH:
Handle
for RBS

Handle and Extension for RBS

Type	Art-No	Length [mm]	Suitable for RBS Ø	Connecting thread	€ / pc	[pcs]	[pcs]
MRBKV	MRBKV	140	all	M6		5	–
MRBKH	MRBKH	–	all	M6		5	–



Blow out pump AB



Type	Art-No	Tube-Ø [mm]	€ / pc	[pcs]	[pcs]
AB	BOP	8		1	–

ResiFIX Anchor studs

Approvals and certificates



RESI AST, zinc plated 5.8 with nut and washer

Type $d_s - L$	Art-No	in concrete					in solid brick		in hollow brick		€/ 100 pcs		
		d_0 [mm]	$h_{ef, min}$ [mm]	$t_{fix, max}$ for $h_{ef, min}$ [mm]	$h_{ef, Stand}^{1)}$ [mm]	$t_{fix, max}$ for $h_{ef, stand}$ [mm]	$d_0 - h_0$ [mm]	$t_{fix, max}$ [mm]	Sleeve [Type]	$t_{fix, max}$ [mm]			
M8-110	98110RAST	10	60	40	80	20	10 - 80	20	SH 12-80	20		10	100
M8-130	98130RAST	10	60	60	80	40	10 - 80	40	SH 12-80	40		10	100
M10-110	910110RAST	12	60	40	90	10	12 - 90	10	SH 16-85	15		10	100
M10-130	910130RAST	12	60	60	90	30	12 - 90	30	SH 16-85	35		10	100
M10-170	910170RAST	12	60	100	90	70	12 - 90	70	SH 16-85	75		10	100
M10-200	910200RAST	12	60	130	90	100	12 - 90	100	SH 16-85	105		10	60
M12-130	912130RAST	14	70	45	110	5	14 - 100	15	SH 20-85	30		10	100
M12-160	912160RAST	14	70	75	110	35	14 - 100	45	SH 20-85	60		10	100
M12-210	912210RAST	14	70	125	110	85	14 - 100	95	SH 20-85	110		10	60
M16-160	916160RAST	18	80	60	125	15	18 - 100	40	SH 20-85	60		10	60
M16-190	916190RAST	18	80	90	125	45	18 - 100	70	SH 20-85	90		10	60
M16-235	916235RAST	18	80	135	125	90	18 - 100	115	SH 20-85	135		10	40
M20-240	920240RAST	24	90	130	170	50	not suitable		not suitable			5	20
M24-300	924300RAST	28	96	180	210	65	not suitable		not suitable			5	20



RESI AST, stainless steel A4 with nut and washer



Type $d_s - L$	Art-No	in concrete					in solid brick		in hollow brick		€/ 100 pcs		
		d_0 [mm]	$h_{ef, min}$ [mm]	$t_{fix, max}$ for $h_{ef, min}$ [mm]	$h_{ef, Stand}^{1)}$ [mm]	$t_{fix, max}$ for $h_{ef, stand}$ [mm]	$d_0 - h_0$ [mm]	$t_{fix, max}$ [mm]	Sleeve [Type]	$t_{fix, max}$ [mm]			
M8-110	9X8110RAST	10	60	40	80	20	10 - 80	20	SH 12-80	20		10	100
M8-130	9X8130RAST	10	60	60	80	40	10 - 80	40	SH 12-80	40		10	100
M10-110	9X10110RAST	12	60	40	90	10	12 - 90	10	SH 16-85	15		10	100
M10-130	9X10130RAST	12	60	60	90	30	12 - 90	30	SH 16-85	35		10	100
M10-170	9X10170RAST	12	60	100	90	70	12 - 90	70	SH 16-85	75		10	100
M10-200	9X10200RAST	12	60	130	90	100	12 - 90	100	SH 16-85	105		10	60
M12-130	9X12130RAST	14	70	45	110	5	14 - 100	15	SH 20-85	30		10	100
M12-160	9X12160RAST	14	70	75	110	35	14 - 100	45	SH 20-85	60		10	100
M12-210	9X12210RAST	14	70	125	110	85	14 - 100	95	SH 20-85	110		10	60
M16-160	9X16160RAST	18	80	60	125	15	18 - 100	40	SH 20-85	60		10	60
M16-190	9X16190RAST	18	80	90	125	45	18 - 100	70	SH 20-85	90		10	60
M16-235	9X16235RAST	18	80	135	125	90	18 - 100	115	SH 20-85	135		10	40
M20-240	9X20240RAST	24	90	130	170	50	not suitable		not suitable			5	20
M24-300	9X24300RAST	28	96	180	210	65	not suitable		not suitable			5	20

Also suitable for ResiFIX: Anchor studs VA AST for the bonded anchor (with outer hexagon)

Further lengths, steel 8.8, hot-dip galvanized steel and stainless steel HCR on request

1) Standard anchorage depth means the usually used anchorage depth. Min. anchorage depth according to ETA assessment



Blister RESI AST, zinc plated



Type	Art-No	Thread	Length L [mm]	€/ Blister	 [pcs]	 [Blister]
8-110	58110VMAST4	M8	110		4	10
10-130	510130VMAST4	M10	130		4	10
12-160	512160VMAST4	M12	160		4	10

Note: The system (resin, sleeve and anchor rod) is only approved completely if approved components are used.



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