



# PACTORep Fixer EASF

## Styrene Free Epoxyacrylate Injection Mortar

### DESCRIPTION

PACTORep Fixer EASF is a high performance styrene free epoxyacrylate injection mortar for solid and hollow supports having a short cure time.

It is suitable for use in concrete, stone, perforated bricks and cavity blocks in a wide range of applications: fixing of gates, balustrades, banisters, roller blinds, panes, antennas, consoles, cable trays, industrial machinery...

It is also suitable for structural applications with reinforcing bars in new construction work or refurbishment and assembling of dowel of precast elements of concrete.

### FEATURES

- Suitable for rods and reinforcing bars in plain and hollow structures
- Styrene free, very low odour, only irritant
- Easy to extrude and to inject
- Thixotropic, can be applied in vertical or horizontal direction
- Fast curing

### AVAILABILITY

- 150 ml coaxial cartridge with plunger
- 280 ml universal cartridge
- 380 ml coaxial cartridge
- 345 ml side by side cartridge

### PHYSICAL PROPERTIES

- Nature: epoxyacrylate resin
- Colour: light grey (Comp. A: beige; Comp. B: black)
- Specific weight: 1,80 kg/l at 20°C
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### ACCESSORIES

- Mixing nozzle
- Double piston cartridge gun
- Sleeve for fixing on hollow structures
- Wire brush
- Blow out pump

### WORKING AND HARDENING TIMES

Base Material Temperature (°C)	0	5	10	15	20	25	30	35
Working	45'	25'	15'	10'	8'	5'	4'	2'
Hardening	3h	2h	1h30'	1h	45'	30'	20'	15'

### PERFORMANCE DATA FOR RODS INTO CONCRETE

Anchor	Installation					Resistance	Admissible loads		
	Rod class	Drill diameter $d_0$	Embedment depth $h_{ef}$	Standard edge distance $C_{Cr}$	Standard anchor distance $S_{Cr}$	Torque moment $T_{inst}$	Characteristic resistance $N_{Rk}$	Concrete C20/25	Concrete C20/25
		[mm]	[mm]	[mm]	[mm]	[N.m]	Tensile [kN]	Tensile [kN]	Shear [kN]
M8	10	80	80	160	10	19,9	6,6	8,1	
M10	12	90	90	180	20	34,8	11,6	12,9	
M12	14	110	110	220	40	41,7	13,9	18,7	
M16	18	125	125	250	80	67,5	22,5	34,9	
M20	24	170	170	340	120	114,8	38,3	54,4	

Safety factor for tension load 3



**PERFORMANCE DATA FOR REBAR INTO CONCRETE ACCORDING TO EUROCODE 2**

Bar diameter $d_s$ [mm]	Drill diameter $d_0$ [mm]	Admissible load $F_s$ in C20/25 concrete High adherence 500 MPa steel rebar						
		Embedment depth $l_v$ [mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]* 1
		Tension load $F_s$ [C20/25] [kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]* 1
8	10	$l_v$	80	120	160	200	240	258
		$F_s$ [C20/25]	6,8	10,2	13,6	17,0	20,4	21,9
10	12	$l_v$	100	150	200	250	300	336
		$F_s$ [C20/25]	10,2	15,3	20,4	25,4	30,5	34,2
12	16	$l_v$	120	180	240	300	360	362
		$F_s$ [C20/25]	16,3	24,4	32,6	40,7	48,9	49,2
14	18	$l_v$	140	210	280	350	420	438
		$F_s$ [C20/25]	21,4	32,1	42,8	53,4	64,1	66,9
16	20	$l_v$	160	240	320	400	480	515
		$F_s$ [C20/25]	27,1	40,7	54,3	67,9	81,4	87,4
18	22	$l_v$	180	270	360	450	540	593
		$F_s$ [C20/25]	33,6	50,4	67,2	84,0	100,8	110,6
20	25	$l_v$	200	300	400	500	600	644
		$F_s$ [C20/25]	42,4	63,6	84,8	106,0	127,2	136,6
25	32	$l_v$	250	375	500	625	750	786
		$F_s$ [C20/25]	67,9	101,8	135,7	169,6	203,6	213,4
28	35	$l_v$	280	420	560	700	840	902
		$F_s$ [C20/25]	83,1	124,7	166,3	207,8	249,4	267,7
32	40	$l_v$	320	480	640	800	960	1031
		$F_s$ [C20/25]	108,6	162,9	217,1	271,4	325,7	349,7
36	45	$l_v$	360	540	720	900	1080	1212
		$F_s$ [C20/25]	131,4	197,2	262,9	328,6	394,3	442,6
40	55	$l_v$	400	600	800	1000	1200	1283
		$F_s$ [C20/25]	170,4	255,6	340,8	426,0	511,2	546,4

\*1 Maximum loads according to the steel strength for 500MPa Reinforcing Bars



**Method of calculation:  $F_s (kN) = d_0 \times l_v \times \psi_c / 100$**

$d_0$  and  $l_v$  in mm, spacing min.  $10 d_s$ , edge distance min.  $5 d_s$

Concrete strength class		C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C55/60
from $\varnothing$ 8mm to 25mm	$f_t$ (MPa) *	1,6	2,0	2,3	2,7	3,0	3,4	3,7	4,0	4,3
	$\psi_c$ **	0,590	0,738	0,848	0,996	1,106	1,254	1,365	1,475	1,586
from $\varnothing$ 26mm to 32mm	$f_t$ (MPa) *	1,6	2,0	2,3	2,7					
	$\psi_c$ **	0,590	0,738	0,848	0,996					
$\varnothing$ 34mm	$f_t$ (MPa) *	1,6	2,0	2,3	2,6					
	$\psi_c$ **	0,590	0,738	0,848	0,959					
$\varnothing$ 36mm	$f_t$ (MPa) *	1,5	1,9	2,2	2,6					
	$\psi_c$ **	0,553	0,701	0,811	0,959					
$\varnothing$ 40mm	$f_t$ (MPa) *	1,500	1,800	2,100	2,5					
	$\psi_c$ **	0,553	0,664	0,774	0,922					

\* Characteristic bond resistance for good bond conditions (EC2)  $f_t$  (MPa)

\*\* Factor for concrete strength class  $\psi_c$

$$\psi_c = 0,06 \times \pi \times f_t \times \psi_s^2 / \gamma_s$$

$\gamma_s = 1,15$  safety coefficient

$\psi_s = 1,5$  high adherence bar coefficient<sup>(1)</sup>

(1) For smooth bars use  $\psi_s = 1,0$

**ULTIMATE LOAD**

		8	10	12	14	16	18	20	25	28	32	36	40
Bar diameter $d_s$ [mm]		8	10	12	14	16	18	20	25	28	32	36	40
Drill diameter $d_0$ [mm]		10	12	16	18	20	22	25	32	35	40	45	55
Cross sectional Area of reinforcement $A_s$ [mm <sup>2</sup> ]		50,3	78,5	113,1	153,9	201,1	254,5	314,2	490,9	615,8	804,2	1017,9	1256,6
$f_e=500N/mm^2$	$A_s \times f_e$ [kN]	25,13	39,27	56,55	76,97	100,53	127,23	157,08	245,44	307,88	402,12	508,94	628,32
	Ultimate Load acc to steel strength Z [kN]	21,85	34,15	49,17	66,93	87,42	110,64	136,59	213,42	267,72	349,67	442,55	546,36
$f_e=550N/mm^2$	$A_s \times f_e$ [kN]	27,65	43,20	62,20	84,67	110,58	139,96	172,79	269,98	338,66	442,34	559,83	691,15
	Ultimate Load acc to steel strength Z [kN]	24,04	37,56	54,09	73,62	96,16	121,70	150,25	234,77	294,49	384,64	486,81	601,00



**YIELD: NUMBER OF ANCHORS PER DIAMETER AND TYPE OF CARTRIDGE**

Anchor	Installation of rods in concrete <sup>(1)</sup>				Installation of rebars in concrete <sup>(2)</sup>			
	150 ml	280 ml	345 ml	380 ml	150 ml	280 ml	345 ml	380 ml
Diameter (mm)								
8	35/45	65/75	80/90	90/100	35/45	65/75	80/90	90/100
10	20/25	35/40	45/50	50/55	20/25	35/40	45/50	50/55
12	12/16	20/24	26/30	30/34	8/12	14/19	18/23	20/25
16	6/8	11/13	14/16	16/18	4/6	9/11	11/13	12/14
20	2/3	5/6	6/7	7/8	2/3	5/6	6/7	7/8

(1) See tables of performances for hole diameter and depth definitions for rods

(2) Number calculated for  $l_v = 10 d_s$

**MECHANICAL CHARACTERISTICS**

FACTOREP FIXER EASF	Units	Standard	Average value
Compressive strength	[N/mm <sup>2</sup> ]	ASTM D695	61
Compressive modulus	[N/mm <sup>2</sup> ]	ASTM D695	7400

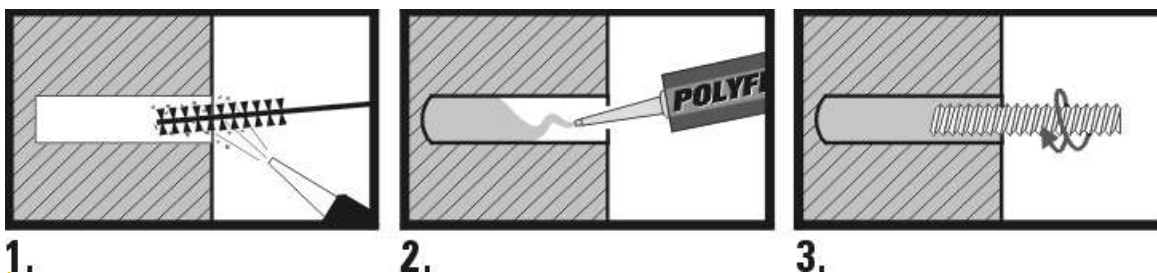
**CARTRIDGE USE**

- Unscrew the cap of the cartridge.
- Screw the mixing nozzle onto cartridge.
- Insert the cartridge in the gun.
- Remove the mixture until the two components have a homogeneous light grey colour in the nozzle (avoid using the first 10 ml).

**APPLICATION**

- Choose a drill of suitable dimensions depending on the rod to be anchored.
- Remove the water and dirt (dust and loose material) with a circular brush and a blower or with air pressure.
- The items to be fastened must be clean.
- Inject the product from the base of the hole until 2/3 full.
- Insert the element to be fastened rotating ,if necessary, keep the position with a suitable device.
- Unscrew the mixing nozzle and replace cap.

**SOLID BASE MATERIAL**



1.

2.

3.



## REMARKS

Before injection, verify the expiry date of the product, the support resistance and the ambient temperature.

Setting and any subsequent adjustment are only possible during working time.

## STORAGE AND SHELF LIFE

Store the product in a ventilated place away from direct exposure to sunlight. Keep between 5°C and 25°C. In unopened original packaging, one year from manufacturing date.

## HEALTH AND SAFETY

Follow instructions of product label. For more information check the Safety Data Sheet . Compliant with the National Statutory Regulation for Health and Safety at Work and Waste Disposal.

For additional Information, please refer to MSDS, Available on request.



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