



### DESCRIPTION

**PACTORep Fixer EP** is a heavy duty epoxy injection mortar for solid base materials. It works in dry, damp and flooded holes with a fast curing time.

It is suitable for use in concrete, stone, solid bricks in a wide range of applications: fixing of gates, balustrades, banisters, roller blinds, panes, antennas, consoles, cable trays, machinery, protective barriers, steel frame structures...

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.

### ADVANTAGES

- Works in damp and flooded holes
- No shrinkage, can be used in oversized holes
- Suitable for reinforcing bars in plain structures
- Styrene free, very low odour
- Thixotropic, can be applied in both vertical and horizontal directions
- Fast curing

### AVAILABILITY

- 400 ml side by side cartridge (ratio 1:1)
- 600 ml side by side cartridge (ratio 1:1)

### PHYSICAL PROPERTIES

- Nature: epoxy / aliphatic amine system
- Colour of the mixture: grey (Comp. A: white; Comp. B: black)
- Specific weight: 1,60 kg/l at 20°C

### ACCESSORIES

- Mixing nozzle
- Double piston cartridge gun
- Wire brush
- Blow out pump

### WORKING AND HARDENING TIMES

Base material temperature	(°C)	10	20	30	40
Working time	(min)	20	12	8	5
Bolt up time*	(h)	12	3	2	1,5
Loading time	(h)	24	6	4	3

\* time to reach 25% maximum load

### PERFORMANCE DATA FOR RODS INTO CONCRETE

Anchor	Installation					Resistance	Admissible loads	
	Rod 8.8	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
	[mm]	[mm]	[mm]	[mm]	[N.m]	Tensile	Tensile	Shear
						[kN]	[kN]	[kN]
M8	10	80	80	160	10	29,5	9,8	8,1
M10	12	90	90	180	20	46,4	18,4	12,9
M12	14	110	110	220	40	74,8	24,9	18,7
M16	20	125	125	250	80	131,9	44,0	34,9
M20	24	170	170	340	120	146,5	48,8	54,4

Safety factor for tension load 2,52 according to ETAG001 – Part 1 – § 6.1.2.2.1a



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

Bar diameter ds	Drill diameter d0	Admissible load Fs in C20/25 concrete High adherence 500 MPa steel rebar						
		Embedment depth [mm]	[mm]	[mm]	[mm]	[mm]	[mm]*1	
[mm]	[mm]	Tension load lv	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]*1
8	10	lv	80	120	160	200	240	322
		Fs [C20/25]	5,4	8,1	10,9	13,6	16,3	21,9
10	12	lv	100	150	200	250	300	403
		Fs [C20/25]	8,5	12,7	17,0	21,2	25,4	34,2
12	16	lv	120	180	240	300	360	483
		Fs [C20/25]	12,2	18,3	24,4	30,5	36,6	49,2
14	18	lv	140	210	280	350	420	564
		Fs [C20/25]	16,6	24,9	33,3	41,6	49,9	66,9
16	20	lv	160	240	320	400	480	644
		Fs [C20/25]	21,7	32,6	43,4	54,3	65,1	87,4
18	22	lv	180	270	360	450	540	725
		Fs [C20/25]	27,5	41,2	55,0	68,7	82,4	110,6
20	25	lv	200	300	400	500	600	805
		Fs [C20/25]	33,9	50,9	67,9	84,8	101,8	136,6
25	32	lv	250	375	500	625	750	1006
		Fs [C20/25]	53,0	79,5	106,0	132,5	159,0	213,4
28	35	lv	280	420	560	700	840	1127
		Fs [C20/25]	66,5	99,8	133,0	166,3	199,5	267,7
32	40	lv	320	480	640	800	960	1288
		Fs [C20/25]	86,9	130,3	173,7	217,1	260,6	349,7
36	45	lv	360	540	720	900	1080	1515
		Fs [C20/25]	105,2	157,7	210,3	262,9	315,5	442,6
40	55	lv	400	600	800	1000	1200	1764
		Fs [C20/25]	123,9	185,9	247,8	309,8	371,7	546,4

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



PERFORMANCE DATA FOR REBAR INTO CONCRETE ACCORDING TO EUROCODE 2, FOR DIFFERENT GRADES, CONCRETE AND STEEL BARS

Bar diameter ds mm	Drill diameter do mm	rebar MPa	Concret grade	Embedment depth,lv Tension load Load, Fs	Admissible Load Fs					
					mm KN	mm KN	mm KN	mm KN	mm KN	mm KN
8	10	500	C20/C25	lv	80	120	160	200	240	258
		420	C40/50	Fs	6,8	10,2	13,6	17,0	20,4	21,9
10	12	500	C20/C25	lv	100	150	200	250	300	336
		420	C40/50	Fs	10,2	15,3	20,4	25,4	30,5	34,2
12	16	500	C20/C25	lv	120	180	240	300	360	362
		420	C40/50	Fs	16,3	24,4	32,6	40,7	48,9	49,1
14	18	500	C20/C25	lv	140	210	280	350	420	438
		420	C40/50	Fs	21,4	32,1	42,8	53,4	64,1	66,9
16	20	500	C20/C25	lv	160	240	320	400	480	515
		420	C40/50	Fs	27,1	40,7	54,3	67,9	81,4	87,4
18	22	500	C20/C25	lv	180	270	360	450	540	593
		420	C40/50	Fs	33,6	50,4	67,2	84,0	100,8	110,7
20	25	500	C20/C25	lv	200	300	400	500	600	644
		420	C40/50	Fs	42,4	63,6	84,8	106,0	127,2	136,6
25	32	500	C20/C25	lv	250	375	500	625	750	786
		420	C40/50	Fs	67,9	101,8	135,7	169,6	203,6	213,3
28	35	500	C20/C25	lv	280	420	560	700	840	902
		420	C40/50	Fs	83,1	124,7	166,3	207,8	249,4	267,8
32	40	500	C20/C25	lv	320	480	640	800	960	1031
		420	C40/50	Fs	108,6	162,9	217,1	271,4	325,7	349,8
36	45	500	C20/C25	lv	360	540	720	900	1080	1212
		420	C40/50	Fs	131,4	197,2	262,9	328,6	394,3	442,5
40	55	500	C20/C25	lv	400	600	800	1000	1200	1283
		420	C40/50	Fs	170,4	255,6	340,8	426,0	511,2	546,5



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

$d_o$  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	1,6	2,0	2,3	2,7	3,0	3,4	3,7	4,0	4,3
(**)		0,452	0,565	0,650	0,763	0,848	0,961	1,046	1,131	1,216
(*)	from $\varnothing$ 26mm to 32mm	1,6	2,0	2,3	2,7					
(**)		0,452	0,565	0,650	0,763					
(*)	$\varnothing$ 34mm	1,6	2,0	2,3	2,6					
(**)		0,452	0,565	0,650	0,735					
(*)	$\varnothing$ 36mm	1,5	1,9	2,2	2,6					
(**)		0,424	0,537	0,622	0,735					
(*)	$\varnothing$ 40mm	1,5	1,8	2,1	2,5					
(**)		0,424	0,509	0,594	0,707					

\* Characteristic bond resistance for good bond conditions (EC2) ft (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>

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

## ULTIMATE LOAD

Bar diameter $d_s$ [mm]	8	10	12	14	16	18	20	25	28	32	36	40	
Drill diameter $d_o$ [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 Diameter (mm)	Installation of rods in concrete <sup>(1)</sup>		Installation of rebars in concrete <sup>(2)</sup>	
	400 ml	600 ml	400 ml	600 ml
8	90/100	140/150	90/100	140/150
10	55/60	80/85	55/60	80/85
12	32/36	48/52	22/26	32/36
16	13/15	19/22	13/15	19/22
20	8/9	12/13	8/9	12/13

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

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

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

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

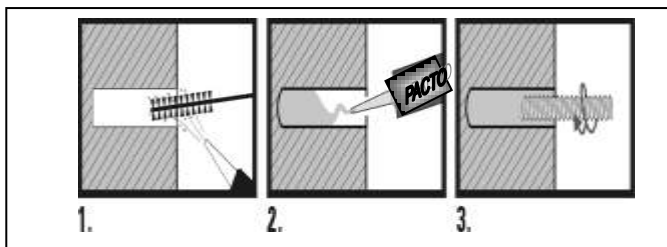
Store the product in a ventilated place away from direct exposure to sunlight. Keep between 5°C and 25°C.

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 SDS 119/EN. 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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