



PC-Fix® EP

High-Performance Anchoring Grout and Adhesive with Pure Epoxy Resin

PC-Fix® EP is a high-performance, two-component pure epoxy resin system with a 1:1 ratio. When applied in a single step, this resin establishes a robust bond characterized by outstanding chemical resistance.

AREAS OF APPLICATION

- Designed to repair a variety of structures, including machines, hardtails, steel constructions, wooden constructions, and reinforcement bars.
- Perfect for larger diameter rebar and rods
- Capable of bonding threaded rods and reinforcing bars into hardened concrete.
- Suitable for resisting loads in both cracked and uncracked concrete base material, following anchor design theory and criteria.
- Can be installed in a range of temperatures.
- Ideal for medium to heavy-duty load applications.
- Offers high durability, making it perfect for indoor use.

ADVANTAGES

- High adhesive force and grip force.
- Can be used in damp concrete.
- High load capacity.
- Longer working time to facilitate installation.
- Fire resistant.
- Styrene-free.
- Shrinkage-free hardening.
- Specifically engineered for compatibility with threaded rod and reinforcing bar hardware elements.
- Suited for use with larger bore diameters.
- Formulated with non-toxic and odorless ingredients.
- Exhibits a broad temperature range, from 5°C to +40°C.
- Free of styrene, rendering it a safer alternative.

TECHNICAL DATA

PHYSICAL PROPERTIES	VALUE	TEST STANDARD
Density after curing	1.5±0.1 g/cm ³	ASTM D 1875
Viscosity of mixture	18-22 pa·s	ASTM D 695
Tensile Strength	≥55Mpa	ASTM D 638
Elongation at Break	≥1.7%	ASTM D 638
Tensile Modulus	≥3500Mpa	ASTM D 638
Flexural Strength	≥70Mpa	ASTM D 790
Compressive strength	≥82Mpa	ASTM D695
Thixotropy index	≥4.0	

PHYSICAL PROPERTIES	VALUE	TEST STANDARD
Sagging mobility (25°C)	≤2.0mm	--
Distortion temperature	≥65°C	--
Boding strength with concrete C60, Φ25, L=125mm	≥17Mpa	--
Non-volatile matter content	≥99%	--
Resistance to salt	≤5%	ASTM D 638
Moisture condition, bore hole	dry and wet	ASTM E1512



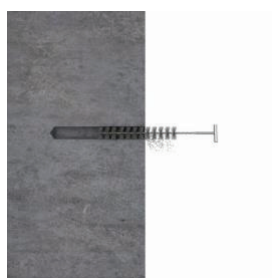
DETAILED CONSTRUCTION PROCESS



1.Drill Hole

MARK UP HOLE POSITION AND DRILL HOLE:

Drill holes in the designed position. The depth and diameter of the hole should meet the requirements in order to meet the bonding area and ensure the pulling strength.



2.Brush

CLEAN HOLE:

Clean and blow holes. Brush and blow for three times at least is recommended.



3.Blow

BLOW:

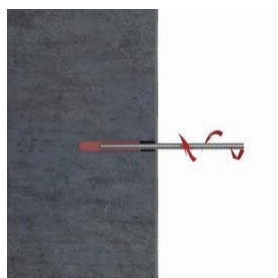
Clean and blow holes. Brush and blow for three times at least is recommended.



4.Inject

INJECTION:

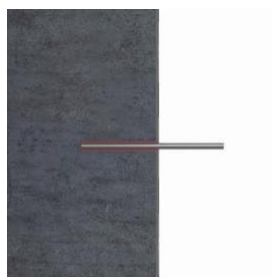
Inject the glue from the bottom of the hole until it fills two-thirds of the hole.



5.Plant

ANCHORING:

Inserting in one single direction until the bottom of the hole.



6.Curing

STANDING AND CURING:

Keep stand for maintenance before curing.

Note: Jobsite/contractor installations usually result in more resin being injected than the theoretical requirement resulting in a lower number of fixings per cartridge. The reduction to the number of fixings per cartridge in practice is greater for smaller diameter holes and shallower embedment depths.

OPERABLE TIME & CURING TIME

Ambient temperature(°C)	-5	0	10	20	≥30
Operable time(min)	60	45	30	15	20
Curing time(h)	72	48	24	12	6

NUMBER OF ANCHORS BY DIAMETER

Anchor Diameter (mm)	Pore Size(mm)	Pore Depth(mm)	Theoretic number piece (400 ml)
8	12	80	67.89
8	12	120	45.10
8	12	160	32.45
10	14	100	38.13
10	14	150	25.95
10	14	200	19.10
12	16	120	24.25
12	16	180	16.19
12	16	240	12.16
14	18	140	16.50
14	18	210	11.00
14	18	280	8.21
16	22	160	9.64
16	22	240	6.44
16	22	320	4.85
18	25	180	6.67
18	25	270	4.45
18	25	360	3.35
20	28	200	4.80
20	28	300	3.22
20	28	400	2.44
22	30	220	3.89
22	30	330	2.61
22	30	440	1.89
25	32	250	2.91
25	32	375	1.95
25	32	500	1.45

BONDING FORCE RENFERENCE SHEET

THE REFERENCE TABLE OF PC-FIX® EP ANCHOR ADHESIVE PLANTING AND ANCHORING BINDING FORCE

ANCHORING ADHESION WHEN PLANTING STEEL BARS

1. Concrete strength is C30,II grade steel yield strength is 335 N/mm².
2. The diameter of drilling holes in the table is the best recommended value,the nearest bit can be selected according to the situation.
3. The yield buried depth value of the steel bars should consider safety factors,and select the design values.

Steel bar diameter, Φ mm	Diameter of drilled hole D(mm)	Yield Characteristic value of steel bard (kN)			Anchoring adhesion (Characteristic Value) RK (kN)																		Steel Bar Yield Planting depth ib (mm)
10	13	26.3	26.1	26.3	26.3	26.3																	105
12	16	37.9		36.2	37.9	37.9	37.9																125
14	18	51.6			45.2	49.8	51.6	51.6	51.6														150
16	20	67.4					60.3	67.4	67.4	67.4													175
18	22	85.2						74.6	82.9	85.2	85.2	85.2	85.2										200
20	25	105.2							94.2	100.5	105.2	105.2	105.2										220
22	28	127.3								112.5	126.6	127.3	127.3	127.3									240
25	32	164.4									144.8	160.8	164.4	164.4	164.4	164.4							270
28	35	206.3										175.9	193.4	206.3	206.3	206.3	206.3						305
32	40	269.4												241.3	251.3	269.4	269.4	269.4					350
40	50	421.0														339.3	383.3	421.0	421.0	421.0			440
Steel Bar Buried depth (mm)		80	90	100	110	120	135	150	160	180	200	220	240	250	270	305	350	400	440				

ANCHORING ADHESION WHEN PLANTING STEEL BARS

- Concrete strength is C30, the designed strength of grade II steel bar is 310 N/mm².
- The designed safety coefficient of steel bar $\gamma_s = 1.15$, the designed safety coefficient of concrete $\gamma_c = 1.5$.

Steel bar diameter Φ mm	Diameter of drilled hole D(mm)	Yield Characteristic value of steel bard (KN)			Anchoring adhesion (Characteristic Value) Rd (kN)																Steel Bar Yield Planting depth ib (mm)
10	13	22.9	17.4	19.6	21.8	22.9														105	
12	16	33.0		24.1	26.8	29.5	33.0													125	
14	18	44.8			30.1	33.2	36.2	40.7	44.8											150	
16	20	58.5					40.2	45.1	50.1	53.5	58.5									175	
18	22	74.1						49.7	55.3	59.0	66.4	74.1								200	
20	25	91.5							62.8	67.0	75.3	83.7	91.5							220	
22	28	110.7								75.0	84.4	93.8	103.2	110.7						240	
25	32	143.0									96.5	107.2	118.0	128.7	134.0	143.0				270	
28	35	179.3										117.2	128.9	140.6	146.5	158.3	179.3			305	
32	40	234.2												160.8	167.3	181.0	204.4	234.2		350	
40	50	365.9														226.2	255.5	293.1	334.9	365.9	440
Steel Bar Buried depth (mm)		80	90	100	110	120	135	150	160	180	200	220	240	250	270	305	350	400	440		

PERFORMANCE DATA FOR RODS INTO CONCRETE

Screw & Hole diameter	Buried depth (mm)	Characteristic-value		Designed value	
		Tensile resistance(kN)	Shearing resistance(kN)	Tensile resistance(kN)	Shearing resistance(kN)
M8-10mm	80	15.8	8.5	7.5	5
M10-12mm	90	22.9	13.7	12.5	8
M12-14mm	110	46.9	20	19	11.8
M16-18mm	125	65.6	37.8	29	22.2
M20-25mm	170	85.3	59	42.5	34.7
M24-28mm	210	170	85	59.7	50
M30-35mm	280	206	135.9	89	79.4

LIMITATION

- Installation of anchors is not recommended when the substrate temperature is below 0°C.
- A new static mixer should be used once the gelling time has expired.
- Nozzles should not be cut or shortened.
- If the cartridge is not finished, clean the opening first, then replace the plug and tightly cap it. The cartridge may be used again in the future by replacing the static mixer.
- Ensure that the hole is properly cleaned. The hole may be damp but should be free from water.
- Do not dilute the mortar with any solvents and/or other chemicals.

STORAGE AND SHELF LIFE

For optimal storage conditions, please store in a dry and dark environment with temperatures ranging from 10°C~30°C, avoiding direct sunlight. This recommendation applies 36 months after the manufacturing date.

PACKAGING & ACCESSORIES

cartridges of 400 ml

Static mixer

Caulking gun. for 400ml(1:1) cartridge. (Economic)

Caulking gun. for 400 ml(1:1) cartridge. (Easy to use) - Nylon Sleeve



PC-WC GLOBAL FZ-LLC

Compass Building, Al Shohada Road Al-Hamra Industrial Zone-FZ,
Ras Al-Khaimah, UAE
Email: info@pc-wc.com
Phone +971542455817, www.pc-wc.com



INTERNATIONAL
CONCRETE REPAIR
INSTITUTE
TECHNICAL DATA SHEET UPDATED IN
SEPTEMBER 2020
TDS/PC-FIX® EP/2020



All technical data in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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