



# IMPAC®

## IMPAC® FIX Super Fast Anchoring and adhesive

### DESCRIPTION:

IMPAC® FIX Super Fast Anchoring and adhesive system has been specially formulated as a high performance, two-component adhesive anchor system for threaded rods in uncracked concrete.

### Storage

Cartridges must be stored in their original packaging, the correct way up, in cool conditions (41°F to 77°F) out of direct sunlight. When stored correctly, the shelf life is 12 months from the date of manufacture.

### Safety

For health and safety information, please refer to the relevant Safety Data Sheet.

### Base materials

- Uncracked concrete
- Hard natural stone
- Solid rock
- Solid & hollow masonry

### Health & Safety

- Fixings close to free edges
- Versatile range of embedment depths
- Anchoring without expansion forces
- Component volume ratio of 10:1
- High load capacities



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### Manufacturer

Polimeros Adhesivos y Derivados S.A. de C.V.  
Frída Kahlo No. 195, Torre Vértice piso 17 Col. Valle Oriente  
San Pedro Garza García, Nuevo León CP 66269

### Planta

José E. González No. 900  
Zona Industrial Santa Catarina, Nuevo León C.P. 66350  
☎ (52) (81) 5000.2020 ✉ info@impac.com.mx

## Working & Loading Times

Cartridge Temperature	T Work (minutes)	Base Material Temperature	T Load
41°F to 50°F	18	23°F to 41°F	12 hours
41°F to 50°F	10	41°F to 50°F	145 min
50°F to 68°F	6	50°F to 68°F	85 min
68°F to 77°F	5	68°F to 77°F	50 min
77°F to 86°F	4	77°F to 86°F	40 min
86°F	4	86°F	35 min

1. Cartridge temperature must be maintained at a minimum of 41°F.
2. T Work is the typical time to gel at the highest temperature in the range.
3. T Load is the typical time to reach full capacity.



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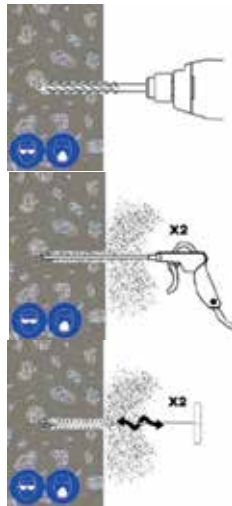
## Installation Instructions

### IMPAC® SUPER FAST POLYESTER ACRYLATE STRUCTURAL & ADHESIVE

Before commencing installation ensure the operative is equipped with appropriate personal protection equipment, SDS hammer drill, air lance, hole cleaning brush, good quality dispensing tool (either manual or power operated), chemical cartridge with mixing nozzle and extension tube, if needed.

Important: check the expiration date on the cartridge (do not use expired material) and that the cartridge has been stored in its original packaging, the correct way up, in cool conditions (41°F to 77°F / 5°C to 25°C) out of direct sunlight.

(1) Using the SDS Hammer Drill in rotary hammer mode for drilling, with a carbide tipped drill bit (ANSI B212.15-1994) of the appropriate size, drill the hole to the specified hole diameter and depth.



(2) Insert the air lance to the bottom of the hole and blow out the hole by depressing the trigger for approximately 2 seconds. Compressed air must be clean and dry with a minimum pressure of 90 psi (6 bar). **Perform the blowing operation twice.**

(3) Select the correct size Hole Cleaning Brush. Ensure that the brush is in good condition and the correct diameter. Insert the brush to the bottom of the hole, using a brush extension if needed to reach the bottom of the hole and withdraw with a twisting motion. *There should be positive interaction between the bristles of the brush and the sides of the drilled hole.*

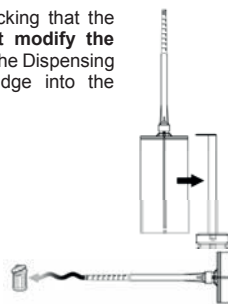
**Perform the brushing operation twice.**

(4) Repeat 2

(5) Repeat 3

(6) Repeat 2

(7) Select the appropriate static mixer nozzle, checking that the mixing elements are present and correct (**do not modify the mixer**). Attach mixer nozzle to the cartridge. Check the Dispensing Tool is in good working order. Place the cartridge into the dispensing tool.



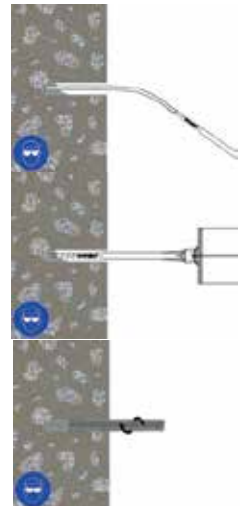
(8) Extrude some resin to waste until an even colored mixture is achieved.

The cartridge is now ready to use.

(9) If required, attach an extension tube with resin stopper to the end of the mixing nozzle with a push fit.

(The extension tubes may be pushed into the resin stoppers and are held in place with a coarse internal thread).

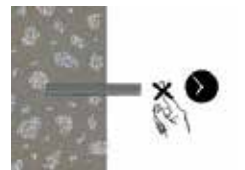
(10) Insert the mixing nozzle to the bottom of the hole. Extrude the resin and slowly withdraw the nozzle from the hole. **Ensure no air voids are created** as the nozzle is withdrawn. Inject resin until the hole is approximately ¾ full and remove the nozzle from the hole.



(11) Select the steel anchor element ensuring it is free from oil or other contaminants, and mark with the required embedment depth. Insert the steel element into the hole using a back and forth twisting motion to ensure complete cover, until it reaches the bottom of the hole. Excess resin will be expelled from the hole evenly around the steel element and there shall be no gaps between the anchor element and the wall of the drilled hole.

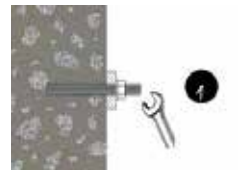
(12) Clean any excess resin from around the mouth of the hole.

(13) Do not disturb the anchor until at least the minimum cure time has elapsed. Refer to the Working and Load Timetable to determine the appropriate cure time.



(14) Position the fixture and tighten the anchor to the appropriate installation torque.

**Do not over-torque the anchor as this could adversely affect its performance.**





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## Installation Specification

Property	Symbol	Unit						
Threaded Rod Diameter	$d_a$	inch	3/8	1/2	5/8	3/4	1	
Drill Bit Diameter	$d_o$	inch	1/2	9/16	11/16	13/16	1 1/16	
Cleaning Brush Size	$d_b$	inch	0.551	0.787		1.142		
Minimum Embedment Depth	$h_{ef,min}$	inch	3	4	5	6	8	
Maximum Embedment Depth	$h_{ef,max}$	inch	4.5	6	7.5	9	12	
Minimum Concrete Thickness	$h_{min}$	inch					$h_{ef} + 2d_o$	
Critical Anchor Spacing	$s_{cr}$	inch				3.0 $h_{ef}$		
Critical Edge Distance	$c_{cr}$	inch				1.5 $h_{ef}$		
Maximum Tightening Torque	$T_{inst}$	ft.lb	15	25	55	80	120	

## Allowable Steel Strength for Threaded Rods

Steel Grade:	Carbon Steel ASTM F 1554 Grade 36 (A307 Gr.C)		Carbon Steel ASTM A 193 B7		Stainless Steel ASTM F 593 CW		Stainless Steel ASTM F 593 SH		
	Anchor Diameter	Allowable Tension, $N_{all}$	Allowable Shear, $V_{all}$	Allowable Tension, $N_{all}$	Allowable Shear, $V_{all}$	Allowable Tension, $N_{all}$	Allowable Shear, $V_{all}$	Allowable Tension, $N_{all}$	Allowable Shear, $V_{all}$
	3/8"	2,110 lbf	1,080 lbf	4,550 lbf	2,345 lbf	3,630 lbf	1,870 lbf	4,190 lbf	2,160 lbf
	1/2"	3,750 lbf	1,930 lbf	8,100 lbf	4,170 lbf	6,470 lbf	3,330 lbf	7,450 lbf	3,840 lbf
	5/8"	5,870 lbf	3,030 lbf	12,655 lbf	6,520 lbf	10,130 lbf	5,220 lbf	11,640 lbf	6,000 lbf
	3/4"	8,460 lbf	4,360 lbf	18,220 lbf	9,390 lbf	12,400 lbf	6,390 lbf	15,300 lbf	7,880 lbf
	1"	15,020 lbf	7,740 lbf	32,400 lbf	16,690 lbf	22,020 lbf	11,340 lbf	27,210 lbf	14,020 lbf

Allowable tension,  $N_{all} = 0.33 \times f_u \times \text{nominal cross sectional area}$

Allowable shear,  $V_{all} = 0.17 \times f_u \times \text{nominal cross sectional area}$



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## Allowable Load Data in Tension and Shear

Anchor Diameter	Embedment Depth	Allowable Concrete Capacity / Bond Strength					
		Tension (lbf)			Shear (lbf)		
		f'c = 2,500 psi	f'c = 4,000 psi	f'c = 8,000 psi	f'c = 2,500 psi	f'c = 4,000 psi	f'c = 8,000 psi
3/8"	3"	1,624	1,702	1,824	2,165	2,270	2,432
	3-3/4"	2,030	2,128	2,280	2,707	2,837	3,041
	4-1/2"	2,436	2,553	2,736	3,248	3,404	3,649
1/2"	4"	2,980	3,123	3,347	3,973	4,164	4,463
	5"	3,725	3,904	4,184	4,966	5,205	5,579
	6"	4,470	4,685	5,021	5,960	6,246	6,695
5/8"	5"	4,938	5,176	5,547	6,584	6,901	7,396
	6-1/4"	6,173	6,470	6,934	8,230	8,626	9,246
	7-1/2"	7,407	7,764	8,321	9,876	10,352	11,095
3/4"	6"	6,189	6,486	6,952	8,251	8,648	9,269
	7-1/2"	77,494	81,223	87,053	103,325	108,297	116,070
	9"	9,283	9,730	10,428	12,377	12,973	13,904
1"	8"	10,254	10,748	11,519	13,672	14,330	15,359
	10"	12,818	13,435	14,399	17,090	17,913	19,198
	12"	15,381	16,121	17,279	20,508	21,495	23,038

1. The above values represent mean ultimate values and allowable working loads. The allowable working loads have been reduced using a safety factor of 4.0 for tension and 3.0 for shear. However, in some cases, such as life safety, safety factors of 10.0 or higher may be necessary.
2. For installations in water-saturated concrete or in flooded bore holes it is recommended to use safety factors a minimum of 5.0 for tension and 4.0 for shear.
3. Allowable loads must be checked against steel capacity. The lowest value controls.
4. Tabulated data is applicable for anchors installed in dry, normal weight concrete unaffected by edge or spacing reduction factors in holes drilled with a hammer drill and ANSI carbide drill bit.
5. Maximum long term temperature = 122°F; maximum short term temperature = 176°F. Long term temperatures are roughly constant over significant time periods. Short term temperatures occur over brief intervals (e.g. diurnal cycling).
6. Linear interpolation is allowed.