

MONNELI ANCHOR FIX EP

High Performance Epoxy Resin for Anchoring Rebars and Structural Loads

Product Description

ANCHOR FIX EP is a pure epoxy resin adhesive use for general purpose horizontal and vertical anchoring in rock, concrete, brick or solid masonry.

Uses

ANCHOR FIX EP can be use in the following :

- Starter bars
- Anchor bolts
- Anchor sockets
- Threaded studs

ANCHOR FIX EP is recommended as an anchoring material for :

- Construction joints
- Foundation bolts
- Base plates
- Balustrades
- Safety barriers and fences
- Ground anchors for cranes
- Anchors for tram rails
- High way rails

Advantage

- High load capacity
- Fixing close to free edge
- Vibration resistant
- Styrene free
- Dimensionally stable
- Eco-friendly, low VOC
- Easy to use

Instructions for Use

Hole Preparation

Anchor bolt holes should be drilled using air or rotary percussive drilling equipment. If diamond core or non-percussive drills are used then the sides of the hole must be thoroughly roughened.

Hole Cleaning

Drilling debris and dust must be thoroughly cleaned from the hole using a stiff nylon bottle brush and clean compressed air and/or clean water. If water is used, the hole may be left damp or even full of water, but the water and the sides of the hole must be clean.

Application

Drill the hole to the correct diameter and depth using a rotary percussive machine. Clean the hole using a stiff wire or nylon brush and clean compressed air or blow pump.

Once the hole is prepared, remove the screw cap and red plug from the cartridge. Attach mixer nozzle, place in applicator gun and dispense the first part of the cartridge to waste until an even color is achieved. Insert the mixer nozzle to the far end of the hole and half fill hole (depending upon application). Withdrawing the nozzle as the hole fills.

For deep holes, extension tubing can be used. Immediately insert the fixing. This should be done slowly with a slight twisting motion.

Excess resin should be removed from the mouth of the hole before it sets. Leave the fixing undisturbed until loading time has elapsed. Attach the fixture and tighten the nut.

Cleaning

Drilling debris and dust must be thoroughly cleaned from the hole using a stiff nylon bottle brush and clean compressed air or blow pump.

Recommendations

- Do not add other materials to ANCHOR FIX EP
- Do not mix more grout than can be applied within the pot life of the material
- Do not apply on crumbling surfaces.
- Do not apply on dusty surfaces.
- Do not use on surfaces with traces of oil, grease and form-release compound, adhesion may be compromised or reduced.
- Do not apply if the air temperature or if the temperature of the substrate are lower than +5°C.
- Do not apply loads until it has completely cured grout may become significant.
- Anchoring strength depends on: strength of substrate, resin embedded length, hole preparation, steel bar type and diameter.

Applicable Standards

ASTM C881, Type I, II, IV, & V, Grade 3, Class B & C

Load Testing

On-site load tests should always be performed to determine the actual performance prior to use, as it is dependent on many variables.

Gel and Loading Times

| Temp. °C | Gel Time (mins) | Loading Time (hours) |
|----------|-----------------|----------------------|
| 5 | 120 | 24 |
| 20 | 15 | 16 |
| 30 | 7 | 8 |
| 40 | 5 | 4 |

Technical Data

| Properties | Results |
|---|------------------------|
| Appearance | Thixotropic Paste |
| Color | Grey |
| VOC | <50 g/L |
| Pot Life at 25°C Pot Life at 40°C (ASTM C881) | 7 mins 5 mins |
| Compressive Strength At 24 hours (ASTM D 695) | 100 N/mm ² |
| Compressive modulus at 7 days (ASTM D695) | 4800N/mm ² |
| Tensile strength at 7 days (ASTM D638) | > 25 N/mm ² |
| Elongation at 7 days (ASTM D638) | 2% |
| Pull Out Strength at 7 days (BS 1881 Part 207) | 26 kN |
| Shore D Hardness | 78-82 |
| Heat Deflection Temperature at 7 days (ASTM D648) | 58°C |
| Water Absorption at 24 hours (ASTM D570) | 0.20 % |
| Resistance to UV Rays | Good |
| Chemical Resistance | Excellent |
| Water Resistance | Excellent |
| Linear Coefficient of Shrinkage (ASTM D2566) | 5 x 10 ⁻⁶ |
| Application Temperature | +5°C to +40°C |
| Service Temperature | -40°C to +70°C |

All values are subject to 5-10 % tolerance

Packaging

ANCHOR FIX EP is supplied in 400mL cartridges.

Storage

12 months when stored at 5 to 30°C or less in a frost-free, dry and shaded area

Health & Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product.

Load Capacity Data

This data is applicable to all grades of carbon and stainless steel threaded bar up to 1040 MPa ultimate tensile stress. Ensure that threaded bar used can accommodate the loads shown below. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product.

| Rod Diameter (mm) | Hole Diameter (mm) | Hole Depth (mm) | Ultimate Loads (mm) | | Allowable Loads (mm) | |
|-------------------|--------------------|-----------------|---------------------|-----------------|----------------------|-----------------|
| | | | Tension Load (kN) | Shear Load (kN) | Tension Load (kN) | Shear Load (kN) |
| 10 | 11 | 90 | 42 | 31 | 10.5 | 7.7 |
| 12 | 14 | 108 | 100 | 157 | 25 | 14 |
| 16 | 20 | 145 | 134 | 102 | 33 | 25 |
| 20 | 22 | 180 | 175 | 144 | 43 | 36 |
| 22 | 25 | 200 | 241 | 162 | 60 | 40 |
| 25 | 28 | 225 | 280 | 233 | 70 | 53 |
| 30 | 35 | 270 | 396 | 309 | 99 | 77 |

Rebar (Grade 500 Metric)

| Bar Size (mm) | Minimum Hole Diameter (mm) | Hole Depth (mm) | Ultimate Loads (mm) | | Allowable Loads (mm) | |
|---------------|----------------------------|-----------------|---------------------|-----------------|----------------------|-----------------|
| | | | Tension Load (kN) | Shear Load (kN) | Tension Load (kN) | Shear Load (kN) |
| 10 | 12 | 90 | 28.6 | 21.6 | 143 | 14.4 |
| 12 | 16 | 110 | 58.0 | 31.1 | 29.0 | 20.7 |
| 16 | 20 | 145 | 98.9 | 55.3 | 49.4 | 36.9 |
| 20 | 25 | 180 | 134.5 | 86.4 | 67.2 | 57.6 |
| 25 | 32 | 225 | 145.7 | 135.0 | 72.8 | 90.0 |
| 32 | 38 | 290 | 175.3 | 221.2 | 87.6 | 147.5 |

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