

EPO BOND FD

Epoxy Based fairing Coat, Steel Anchoring Adhesive and Pore Sealing Putty



DESCRIPTION

EPO BOND FD is thixotropic solvent free, two component based on epoxy resins, graded fillers and thixotropic agents, specially formulated to meet a range of service temperatures from 25°C to 60°C. The base component is white coloured and the hardener is black to facilitate ease of mixing.

EPO BOND FD available in two different forms

- I. **BOND FD 3:1** - For steel anchoring.
- II. **BOND FD 2:1** - For concrete repair, fair facing, pore sealing and adhesive for bonding application.

TYPICAL APPLICATIONS

EPO BOND FD is designed for application to minor imperfections in concrete surfaces. It is suitable for application from a feather-edge to 5 mm, and can be used in the following situations:

- For filling blow holes, making fair slightly damaged concrete, eliminating minor irregularities prior to painting or coating. Highly recommended for repair of structures that will be permanently submerged in water, sea water like water intake areas in power plants etc.
- As an adhesive for bonding pre-fabricated concrete bridge segments.
- As a steel anchoring and cavity filler.
- General re-profiling over large areas, up to 5 mm depth.
- Sealing of surface cracks in preparation for crack injection.
- General purpose bedding mortar and adhesive

ADVANTAGES

- Easy to apply, Non – sag, can be applied to vertical surfaces and trowelled into blow holes.
- Paste like consistency.
- Excellent bonding to concrete, steel and metal surfaces.
- Cures and hardens without shrinkage, hardening is not affected by high humidity.
- High strength and E-Modulus.
- Can be applied from feather edge to 5 mm thickness even on damp or wet substrates.
- Suitable for marine and buried applications.
- High chemical ,abrasion and impact resistance
- Manufactured in Kuwait for severe climatic conditions of the Middle East.

PRODUCT DATA

Form	Paste like consistency
Color	Off-white/Grey
Packing	1. BOND FD (3:1) – 4 Kg Packing 2. BOND FD (2:1) – 6 Kg Packing
Layer Thickness	1mm to 5mm
Consumption	1.8 Kg/m ² (for 1 mm)
Shelf life	12 months, indoor storing non-open packaging under controlled condition

TECHNICAL SPECIFICATION

Test Name	Standard	Average Result
Density@25°C	---	1.80 ± 0.1 Kg/Ltr
Working time	---	About 120 minutes at 20°C and about 90 minutes at 35°C
Bond Strength 2 days 14 days	ASTM C 882	> 4.0 MPa > 10.0 MPa
Compressive Strength 1 day 3 days 7 days	ASTM D 695	> 25.0 MPa > 31.0 MPa > 40.0 MPa
Compressive Modulus	ASTM D 695	1058 MPa
Water Absorption 24 Hours	ASTM D 570	0.03%
Linear Coefficient of shrinkage	ASTM D 351	0.190%
Tensile Strength	----	> 2.0 MPa
Elongation	----	> 7.0 %
Viscosity @ 25°C	ASTM D 2196	2350 ± 200 cps
Gel time @ 25°C	ASTM C 881	60 min
Thermal compatibility	ASTM C 884	No Failure
Consistency	ASTM C 881	2 min

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Ver 03/20

EPO GULF SPECIALITIES CO.

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STANDARD COMPLIANCE

EPO BOND FD meets the performance requirements of **ASTM C 881 – Type 1 & 4, Grade 3 Class B & C** Passes **ASTM C 883 & ASTM C 884**.

APPLICATION PROCEDURE

APPLICATION AS FAIRING COAT AND PORE SEALING PUTTY

Substrate Preparation

Steel surfaces should be cleaned, dry and sand blasted, concrete surfaces should be clean, dry and free from dust & laitance. Sand blasting or mechanical wire brushing may be necessary.

Mixing

EPO BOND FD should be thoroughly mixed to produce a fully homogenous paste. The hardener and base components (Recommended to mix full packs) should be mixed thoroughly for 3 minutes using a drill and paddle attachment not exceeding 400 rpm. Mixing part packs is not preferable, but in case of such need mixing ratios are varies depend up on products by volume or by weight. **EPO BOND FD** can be finished using water wet sponge, water wet trowel to obtain smooth finish before initial set.do not mix partial pack.

Application

A variety of tools such as trowel, scrapper, filling knife can be used. After mixing, material can be taken directly from the can, or sub divided into spot boards for individual applicators.

- As an adhesive for bonding pre – cast concrete segments, glove protected hands can also be used to apply **EPO BOND FD** to one or both of the surfaces.
- **EPO BOND FD**, when used as a fairing coat/pore sealing putty can be over coated with all **EPO** Range of epoxy coatings within 8 to 24 hrs of operation.

APPLICATION AS STEEL ANCHORING ADHESIVE

Hole preparation and formation

Optimum performance of **EPO BOND FD** mortar requires rough sided, dust free holes. Use of rotary percussive drills with air flushing is recommended.

Cast holes should preferably be inverse dovetail configuration. If parallel- sided holes are cast they should be rough to provide adequate keying.

Bar preparation

All bars should preferably be degreased and all flaky rusts are removed.

Bar diameter d (mm)	6	8	10	12	14	16	20	25
Hole diameter d (mm)	8	10	12	14	18	20	25	32
Minimum anchor embedment (mm)	60	80	90	100	115	130	140	150

Mixing

A complete pack of resin should be mixed in one operation. Mixing may be carried mechanically for 3 min on low speed (400 rpm).When a smooth, even consistency is achieved the mortar is ready for use and should be placed well within the gel time of the grout (35 Min at 20°C).Packs have been designed to produce practical and economic volumes of mortar. Do not attempt to mix partial pack components.

Placing

The mixed mortar should be poured steadily into the prepared holes. The anchor bar is then pressed into the hole to the required depth. Slight agitation of the bar will assist in achieving a complete bond. The bar should then be left undisturbed in the required position until the resin is set.



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CLEANING

Use **EPO SOLVENT** for cleaning uncured **EPO BOND FD**, cured material can only be removed mechanically.

LIMITATIONS

- Do not mix part packs under any circumstances.
- **EPO BOND FD** should not be exposed to moving water during application.
- Exposure to heavy rainfall prior to final set may result in surface scour.
- If any doubt arises concerning temperature or substrate condition, consult the **EPO GULF SPECIALITIES TECHNICAL DEPARTMENT**.

PRECAUTIONS

HEALTH AND SAFETY

EPO BOND FD and **EPO SOLVENT** should not come in contact with skin or eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapors. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye/face protection.

If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provides additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream followed by soap and water. Do not use solvent. In case of contact with eye, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting.

FIRE

EPO BOND FD is non-flammable.

EPO SOLVENT is flammable. Keep away from sources of ignition. No smoking. In the event of fire extinguish with CO₂ or foam. Do not use a water jet.

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