Tufchem™ XF Grout

SELECTION & SPECIFICATION DATA

Type

Structural epoxy grout

Description

Tufchem XF Grout is a versatile structural epoxy grout designed with low shrinkage, low exotherm, and high flow for grouting and casting applications. It may be placed 3/4 inches (20 mm) to 12 inches (300 mm) deep per lift.

Uses

- Restoring and protecting Portland cement concrete structures such as:

Beams	Columns
Bases	Pads
Floors	Piers
Foundations	Piles
Footings	Pedestals

- Grouting base plates of rotating and reciprocating machinery such as:

Ball mills	Pumps
Blowers	Mixers
Centrifuges	Generators
Crushers	Stamping machines
Compressors	Paper mill machines

Features

- EZ Mix resin packaging enables efficient resin and hardener mixing for a 2.2 ft^3 (0.06 m^3) kit.
- Low exotherm allows deep pours up to 12 inches (300 mm) without overheating.
- Excellent flow characteristics with full filler loading.
- Excellent vibration resistance.
- Good resistance to a broad range of chemicals and oils.
- High physical strength.
- Good bond to concrete and metal surfaces.
- Rapid strength gain.

Limitations

Requires use of formwork for vertical applications.

INSTALLATION GUIDANCE

Reference Specifications

CES-360 Installation of Armor Resinous Polymer Concretes

Installation Conditions

Tufchem XF Grout is formulated for ideal handling at 70°F (21°C). For temperatures below 50°F (10°C), consult Armor. Materials and substrate should be acclimated to the air temperature prior to installation, and the air temperature should be between 50°F (10°C) and 90°F (32°C) during installation and cure. Substrate must be clean, dry, and neutral pH.

Ratio

By weight, 1.0 resin: 0.17 hardener: 7.7 filler or 1.0-part mixed resin and hardener: 6.6 parts filler

Mixing

For the 2.2 ft^3 (0.06 m^3) EZ Mix unit, the part B hardener can be added directly to the part A resin pail. For larger and smaller units, transfer the resin into a mixing container. While power mixing the resin, slowly empty the hardener into the resin then continue mixing for 2 minutes. Transfer the catalyzed resin into a clean, dry paddle mixer then slowly add filler while mixing. Continue mixing until filler is thoroughly wetted.

Work Life

2 hours at 70°F (21°C)

Work life is shorter at higher temperatures. A larger volume of mixed material will have a shorter work life than a smaller volume.

Cleanup

Xylene or MEK

CURE TIME

Temperature	Initial Set	Full Cure
70°F (21°C)	8 hours	5 days

SAFETY

Safety

Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and safety data sheets before using.

Ventilation

Provide thorough air circulation during and after application until the material has cured when used in enclosed areas.

Tufchem™ XF Grout

PACKAGING, ESTIMATING & HANDLING

Product	Code	Packaging
Tufchem Epoxy Resin Gray	21928 29436 19704	4 x 7.8 lb (3.5 kg) can case 32.5 lb (14.7 kg) EZ Mix pail 47.0 lb (21.3 kg) pail
Tufchem Epoxy Resin Blue	29437 29657	32.5 lb (14.7 kg) EZ Mix pail 47.0 lb (21.3 kg) pail
Tufchem Epoxy Resin Red	23861 29441 29656	4 x 7.8 lb (3.5 kg) can case 32.5 lb (14.7 kg) EZ Mix pail 47.0 lb (21.3 kg) pail
Tufchem Epoxy Hardener	21929 29438 19705 29554	4 x 1.3 lb (0.59 kg) can case 5.5 lb (2.5 kg) EZ Mix can 7.8 lb (3.5 kg) can 23.4 lb (10.6 kg) can
XF Grout Filler	19600	50 lb (22.7 kg) bag

A 2.09 cubic foot (276 lb) unit consists of 1 case of 4 x 7.8 lb cans resin, 1 case of 4 x 1.3 lb cans hardener and 240 lbs filler.

A 3.14 cubic foot (415 lb) unit consists of 1 x 47.0 lb pail resin, 1 x 7.8 lb can hardener, and 360 lbs filler.

A 2.2 cubic foot (288 lb) EZ Mix unit consists of 1 x 32.5 lb pail resin, 1 x 5.5 lb can hardener and 5 x 50-lb bags filler.

Theoretical Coverage

Allow 132 mixed lb/ft^3 (2,114 kg/m^3) of volume. Allow 16.5 mixed lb/ft^2 (80 kg/m^2) when casting as a 1.5-inch (38 mm) overlay and 11.0 mixed lb/ft^2 (54 kg/m^2) as a 1.0-inch (25 mm) overlay.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life for the resin and hardener is 12 months when stored in a dry area at 70°F (21°C). Fillers do not degrade with age when stored in a dry area and packaging is intact. Actual shelf life may vary with storage conditions.

If there is any question with respect to the quality of the components, check reactivity prior to use. For assistance, consult with Armor.

TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	Gray, blue, or red
Density, ASTM C138	132 lb/ft^3 (2,114 kg/m^3)
Compressive strength, ASTM C579	
18 Hours	6,300 psi (44 MPa)
24 Hours	8,250 psi (57 MPa)
30 Hours	10,400 psi (72 MPa)
48 Hours	12,600 psi (87 MPa)
5 Days	>15,500 psi (107 MPa)
Tensile strength, ASTM C190	>1,500 psi (10.3 MPa)
Creep, ASTM C1181, 14 Days 3.4 MPa (493 psi) 73°F (23°C)	2.0 x 10^{-3}
Flow time, ASTM C1339	
Back of box	<3 minutes
Full contact	<3 minutes
Bearing area, ASTM C1339	Passes
Coefficient of thermal expansion, 75°F-210°F, ASTM C531	22 x 10^{-6}/°F (39.6 x 10^{-6}/°C)
Shrinkage, ASTM C531	0.14%
Absorption, ASTM C413	0.33%
Minimum application thickness	0.75 inches (20 mm)

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