

## SELECTION & SPECIFICATION DATA

<b>Type</b>	Structural epoxy grout																				
<b>Description</b>	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.																				
<b>Uses</b>	<ul style="list-style-type: none"> <li>• Restoring and protecting Portland cement concrete structures such as:           <table border="0" style="margin-left: 20px;"> <tr> <td>Beams</td> <td>Columns</td> </tr> <tr> <td>Bases</td> <td>Pads</td> </tr> <tr> <td>Floors</td> <td>Piers</td> </tr> <tr> <td>Foundations</td> <td>Piles</td> </tr> <tr> <td>Footings</td> <td>Pedestals</td> </tr> </table> </li> <li>• Grouting base plates of rotating and reciprocating machinery such as:           <table border="0" style="margin-left: 20px;"> <tr> <td>Ball mills</td> <td>Pumps</td> </tr> <tr> <td>Blowers</td> <td>Mixers</td> </tr> <tr> <td>Centrifuges</td> <td>Generators</td> </tr> <tr> <td>Crushers</td> <td>Stamping machines</td> </tr> <tr> <td>Compressors</td> <td>Paper mill machines</td> </tr> </table> </li> </ul>	Beams	Columns	Bases	Pads	Floors	Piers	Foundations	Piles	Footings	Pedestals	Ball mills	Pumps	Blowers	Mixers	Centrifuges	Generators	Crushers	Stamping machines	Compressors	Paper mill machines
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<b>Features</b>	<ul style="list-style-type: none"> <li>• EZ Mix resin packaging enables efficient resin and hardener mixing for a 2.2 ft<sup>3</sup> (0.06 m<sup>3</sup>) mix.</li> <li>• Low exotherm allows deep pours up to 12 inches (300 mm) without overheating.</li> <li>• Excellent flow characteristics with full filler loading.</li> <li>• Excellent vibration resistance.</li> <li>• Good resistance to a broad range of chemicals and oils.</li> <li>• High physical strength.</li> <li>• Good bond to concrete and metal surfaces.</li> <li>• Rapid strength gain.</li> </ul>																				
<b>Limitations</b>	Requires use of formwork for vertical applications.																				

## INSTALLATION GUIDANCE

<b>Reference Specifications</b>	CES-360 Installation of ErgonArmor Resinous Polymer Concretes	
<b>Installation Conditions</b>	Tufchem XF Grout is formulated for ideal handling at 70°F (21°C). For temperatures below 50°F (10°C), consult ErgonArmor. 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.	
<b>Ratio</b>	By weight, 1.0 resin: 0.17 hardener: 7.7 filler or 1.0 part mixed resin and hardener: 6.6 parts filler	
<b>Mixing</b>	For the 2.2 ft <sup>3</sup> (0.06 m <sup>3</sup> ) 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.	
<b>Work Life</b>	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.	
<b>Cleanup</b>	Xylene or MEK	
<b><u>CURE TIME</u></b>		
<b>Temperature</b>	<b>Initial Set</b>	<b>Full Cure</b>
70°F (21°C)	8 hours	5 days

### PACKAGING, ESTIMATING & HANDLING

Product	Code	Packaging
Tufchem Epoxy Resin Gray	21928	4 x 7.8 lb (3.5 kg) can case
	29436	32.5 lb (14.7 kg) EZ Mix pail
	19704	47.0 lb (21.3 kg) pail
Tufchem Epoxy Resin Blue	29437	32.5 lb (14.7 kg) EZ Mix pail
	29657	47.0 lb (21.3 kg) pail
Tufchem Epoxy Resin Red	23861	4 x 7.8 lb (3.5 kg) can case
	29441	32.5 lb (14.7 kg) EZ Mix pail
	29656	47.0 lb (21.3 kg) pail
Tufchem Epoxy Hardener	21929	4 x 1.3 lb (0.59 kg) can case
	29438	5.5 lb (2.5 kg) EZ Mix can
	19705	7.8 lb (3.5 kg) can
	29554	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<sup>3</sup> (2,114 kg/m<sup>3</sup>) of volume. Allow 16.5 mixed lb/ft<sup>2</sup> (80 kg/m<sup>2</sup>) when casting as a 1.5-inch (38 mm) overlay and 11.0 mixed lb/ft<sup>2</sup> (54 kg/m<sup>2</sup>) 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 ErgonArmor.

### 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.

### TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Density, ASTM C138	132 lb/ft <sup>3</sup> (2,114 kg/m <sup>3</sup> )
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)
Creep, ASTM C1181, 14 Days 3.4MPa (493 psi) 73° F (23° C)	2.0 x 10 <sup>-3</sup>
Tensile strength, ASTM C307	>2,400 psi (10.3 MPa)
Flexural Strength, ASTM 580	>4,000 psi (27.6 Mpa)
Bond to Concrete ASTM C882 (Slant Shear Strength)	2,415 psi (16.6MPa) Concrete Failure
Flow time, ASTM C1339	
Back of box	<2 minutes
Full contact	<3 minutes
Bearing area, ASTM C1339	Passes
Shrinkage, ASTM C531	0.14%
Absorption, ASTM C413	0.33%
Coefficient of thermal expansion, 75°F- 210°F ASTM C531	22 x 10 <sup>-6</sup> /°F (39.6 x 10 <sup>-6</sup> /°C)
Minimum application thickness	0.75 inches (20 mm)

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