



Pennchem™ Novolac XF Grout

SELECTION & SPECIFICATION DATA

Type	Structural novolac epoxy grout
Description	Pennchem Novolac XF Grout is a 3-component, high functional novolac epoxy structural grout designed with low shrinkage and superior flow characteristics for grouting and casting applications at least 3/4 inches (20 mm) thick.
Uses	<p>Restoring and protecting Portland cement concrete structures in chemical environments that exceed the capabilities of conventional epoxy grouts such as:</p> <ul style="list-style-type: none">• Beams• Machine bases• Floors• Foundations• Footings• Columns• Pads• Piers• Piles• Pedestals <p>Grouting base plates of rotating and reciprocating machinery such as:</p> <ul style="list-style-type: none">• Ball mills• Blowers• Centrifuges• Crushers• Compressors• Pumps• Mixers• Generators• Stamping machines• Paper mill machines
Features	<ul style="list-style-type: none">• High flow, self-leveling properties• Excellent chemical resistance• Contains no VOCs• Fast set• Excellent vibration resistance• High physical strength• Good bond to concrete and metal surfaces
Limitations	<ul style="list-style-type: none">• Requires use of forming for vertical applications• Not for use beyond its chemical resistance or thermal capabilities. Consult Armor with specific questions.

INSTALLATION GUIDANCE

Reference Specifications	CES-360 Installation of Armor Resinous Polymer Concretes	
Installation Conditions	<p>Pennchem Novolac XF Grout is formulated for ideal handling at 70°F (21°C). 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.</p> <p>Substrate must be clean, dry and neutral pH.</p>	
Ratio	<p>By weight, 1.0 resin: 0.5 hardener: 11.3 filler or 1.0-part mixed resin and hardener: 7.4 parts filler</p> <p>Where higher flow characteristics are required, reduce filler loading to 1.0 resin: 0.5 hardener: 10.0 filler by weight or 1.0-part mixed resin and hardener: 6.6 parts filler.</p>	
Mixing	<p>Pour measured quantity of resin into clean, dry mixing vessel. Slowly add measured quantity of hardener to resin and power mix thoroughly. Add filler and power mix until filler is thoroughly wetted.</p>	
Work Life	<p>30-45 minutes at 70°F (21°C)</p> <p>Work life is shorter at higher temperatures. A larger volume of mixed material will have a shorter work life than a smaller volume.</p>	
Cleanup	Xylene or MEK	
<u>CURE TIME</u>		
Temperature	Initial Set	Full Cure
70°F (21°C)	24 hours	48 hours
<u>SAFETY</u>		
Safety	<p>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.</p>	
Ventilation	<p>Provide thorough air circulation during and after application until the material has cured when used in enclosed areas.</p>	

**PACKAGING, ESTIMATING & HANDLING**

Product	Code	Packaging
6710 Resin	19592	40 lb (18.1 kg) pail
6711 Hardener	19595	21 lb (9.5 kg) can
XF Grout Filler	19600	50 lb (23 kg) bag

A 3.87 cubic foot (511 lb) unit consists of 1 x 40 lb (4 gal) pail resin, 1 x 21 lb (1.5 gal) can of hardener and 9 x 50 lb bags filler.

Mix can be made more fluid by holding back up to 1 bag of filler. Yield will be reduced when filler is held back.

Theoretical Coverage

A 511 lb (232 kg) unit will yield approximately 3.87 cubic feet (0.11 m³) of grout. Allow 16.6 mixed lb/ft² (81 kg/m²) when casting as a 1.5-inch (38 mm) overlay and 11.1 mixed lb/ft² (54.3 kg/m²) as a 1.0-inch (25 mm) overlay. Normal wastage allowances should be added. Unit yield will be reduced when filler loading is reduced.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life is 18 months for resin and hardener and 36 months for filler when stored in a dry area at 70°F (21°C). 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
Density, ASTM C138	132 lb/ft ³ (2,114 kg/m ³)
Compressive strength, ASTM C579	>11,000 psi (76 MPa)
Tensile strength, ASTM C307, 7-day	>1,500 psi (10.3 MPa)
Shrinkage, ASTM C531	0.04%
Absorption, ASTM C413, 48-hr. immersion	<0.1%
Coefficient of thermal expansion, 75°F-210°F ASTM C531	23 x 10 ⁻⁶ /°F (41 x 10 ⁻⁶ /°C)
Minimum application thickness	0.75 inches (20 mm)
Slump using 7.9 filler: 1.0 mixed resin and hardener mix ratio	Approximately 6-8 inches (150-200 mm) with full filler loading.
	Flow characteristics of resinous polymer grouts are different from Portland cement grouts. Caution should be used when comparing estimated slump values.

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