



Penntrowel™ 250 Epoxy Underlayment

SELECTION & SPECIFICATION DATA

Type	Epoxy based underlayment
Description	Penntrowel 250 Epoxy Underlayment is a 3-component epoxy-based underlayment.
Uses	Apply in a wide variety of thicknesses to resurface deteriorated surfaces. Repair or patch worn concrete floors, stairs or pump bases. Compatible with the following systems: Penntrowel Floor Surfacers systems, Thinset™ Adhesive, Tufchem™ Tiling systems, Tufchem II Membrane, Penntrowel Epoxy L/F systems, Penncoat™ Membranes and Penncoat Epoxy Lining systems.
Features	<ul style="list-style-type: none">• High compressive strength components• Rapid strength gain• Moisture tolerant• Pre proportioned components for easy mixing
Limitations	<ul style="list-style-type: none">• Consult with Armor before using under vinyl ester-based lining systems.• Not for use beyond its chemical resistance or thermal capabilities. Consult Armor with specific questions

INSTALLATION GUIDANCE

Reference Specification	CE-232	Penntrowel Epoxy Underlayment
Installation Conditions	Penntrowel Epoxy 250 Underlayment 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. For temperatures between 35°F (2°C) and 50°F (10°C), substitute Epoxy Cold Room Hardener. Consult data sheet CE-159 for details. Substrate must be clean, dry and neutral pH.	
Ratio	1.0-part resin: 0.43 parts hardener: 8.9 parts filler or 1.0-part mixed resin and hardener to 6.3 parts filler by weight. Mix ratio of resin to hardener by volume is 2.0:1.0. Where higher flow characteristics are required, filler loading can be held back and mix ratio adjusted to 1.0 resin: 0.43 hardener: 7.7 filler or 1.0-part mixed resin and hardener to 5.4 parts filler by weight.	
Mixing	Pour measured quantity of resin into clean, dry mixing vessel. Slowly add measured quantity of hardener to resin and mix thoroughly. Add filler and mix until filler is thoroughly wetted.	
Work Life	45-60 minutes 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)	3 hours	36 hours

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.



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PACKAGING & ESTIMATING

Product	Code	Packaging
Penntrowel 250 Resin Gray	19635	47 lb (21.3 kg) pail
Penntrowel 250 Hardener	19633	20 lb (9.1 kg) pail
Tufchem™ Grout Filler	21931	60 lb (27.2 kg) bag

One 487 lb unit consists of 1 x 47 lb pail of resin, 1 x 20 lb pail of hardener, and 7 x 60 lb bags of filler. To enhance flow characteristics, it is permissible to hold back up to one bag of filler. For a stiffer mix, up to one additional bag of filler can be added.

Theoretical Coverage

A 487 lb unit will yield 3.7 cu ft. Allow 132 mixed pounds per cubic foot of volume. When casting as a 1.5-inch (38 mm) overlay, allow 16.5 mixed pounds (7.5 kg) per square foot, and 11.0 mixed pounds (5 kg) per square foot as a 1.0-inch (25 mm) overlay. Normal wastage allowances should be added. Yield will be lower when filler quantity is reduced and increased when an extra bag of filler is added.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life is 12 months 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	>10,500 psi (72.4 MPa)
Tensile strength, ASTM C190	>1,800 psi (12.4 MPa)
Flexural strength, ASTM C580	>3,000 psi (20.7 MPa)
Shrinkage, ASTM C531	0.05%
Absorption, ASTM C413	0.02%
Adhesion to concrete, ASTM C321	Greater than the concrete strength
Coefficient of thermal expansion, ASTM C531	17 x 10 ⁻⁶ /°F (30.6 x 10 ⁻⁶ /°C)
Minimum application thickness	1/2 inch (13 mm)
Strength gain over time, 70°F (21°C)	4.5 hours: >1,000 psi (6.9 MPa) 18 hours: >6,000 psi (41 MPa) 24 hours: >9,000 psi (62 MPa) 7 day: >12,000 psi (83 MPa)

Rev 11/2025

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