



# Penntrowel™ Epoxy 60/60MR Lining System

## SELECTION & SPECIFICATION DATA

<b>Type</b>	60 mil (1.5 mm) epoxy lining
<b>Description</b>	<p>Penntrowel 60 Lining System is a 60 mil (1.5 mm) trowel applied epoxy lining/flooring system suitable for general chemical service conditions. The optional Penntrowel 60MR version incorporates a 1 oz. glass mat reinforcement into the base of the lining system.</p> <p>The use of the Carbon Grade Filler is recommended for HF and strong caustic service. When using Carbon Grade Filler and the optional MR version is specified the use of the synthetic veil reinforcing mat is suggested.</p>
<b>Uses</b>	<ul style="list-style-type: none"><li>• Trenches</li><li>• Sumps and pits</li><li>• Tanks and process vessels</li><li>• Floors</li></ul>
<b>Features</b>	<ul style="list-style-type: none"><li>• Bisphenol epoxy resin technology</li><li>• Resistant to a wide range of chemicals</li><li>• Crack bridging capabilities</li><li>• Durable and resistant under repeated thermal stresses</li><li>• Optional carbon grade for hydrofluoric acid and caustic service</li></ul>
<b>Limitations</b>	Not for use beyond its chemical resistance capabilities. Consult Armor with specific questions.

## INSTALLATION GUIDANCE

<b>Reference Specifications</b>	CES-365 Penntrowel 60/60MR Lining System Installation specification
<b>Installation Conditions</b>	Materials and substrate should be acclimated to an air temperature of between 50°F (10°C) and 90°F (32°C) during installation and cure. Installation temperature requirements can be lowered with optional cold room hardener.
<b>Mixing/Use</b>	<p>Silica Grade mix ratio Filler:Resin:Hardener is 3.0:1.0:0.08 by weight or 1.0 parts catalyzed resin to 2.75 parts filler by weight. Mix ratio for carbon grade is 1.0 parts catalyzed resin to 1.8 parts Filler.</p> <p>Empty Part A Resin and Part B Hardener into a clean mixing vessel and mix thoroughly using a slow speed drill with suitable blade mixer such as a Jiffler. Mix for 2 minutes minimum to insure full blending. Slowly add Part C Filler until fully wetted out. Apply by flat trowel over properly primed and prepared substrate. Apply build coat to a nominal 1/16" (1.6 mm) thickness. Trowel lightly to smooth and close the surface. Allow to cure per cure time information below before putting into service.</p> <p>When the 60MR version is specified, embed the chopped strand mat into the wet resin. Apply additional catalyzed resin saturant onto the mat reinforcement. Spread evenly and use a serrated roller to eliminate bubbles and wrinkles. Use smaller pieces of mat for corners and intricate work. Allow mat reinforcing layer to set hard. Once cured apply the Penntrowel 60 basecoat following mixing and usage instructions as described above.</p>
<b>Work Life</b>	30-40 minutes at 70°F (21°C)
<b>Cleanup</b>	MEK or xylene

## CURE TIME

Temperature	Initial Set	Full Cure
70°F (21°C)	3-4 hours	72 hours

## SAFETY

<b>Safety</b>	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.
<b>Ventilation</b>	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 Epoxy Resin Gray	19680	4 x 9.2 lb/4.2 kg (1 gal/3.8 l) cans/cs
Penntrowel Epoxy Hardener	19677	4 x 0.75 lb/0.34 kg cans/cs
L/F Filler Silica	19642	55 lb (25 kg) bag
L/F Filler Carbon	29446	36 lb (16.3 kg) bag
1 oz. reinforcing mat	19639	50 in. x 375 ft (1500 sf/139 sm) roll
Synthetic veil reinforcing cloth	21925	48 in. x 500 yd (6000 sf/557 sm) roll
<b>Theoretical Coverage</b>	<p>Silica grade: A 150 lb/1.36 cu ft (68 kg/38.5 l) unit consists of 1 case of resin, 1 case of hardener and 2 x 55 lb bags of filler and will cover 262 sf (24.3 sm) at 1/16" (1.6 mm) thickness.</p> <p>Carbon grade: A 112 lb/1.1 cu ft (50.8 kg/31.1 l) unit consists of 1 case of resin, 1 case of hardener and 2 x 36 lb bags of filler and will cover 210 sf (19.5 sm) at 1/16" (1.6 mm) thickness.</p> <p>When neat resin and hardener is mixed and used as a saturant for the reinforcing layer allow 400 sf (37.2 sm) per 4.48-gal (39.8 lb) (16.9 l/18 kg) unit.</p>	
<b>Storage &amp; Shelf Life</b>	<p>Maintain products in original packaging and sealed until ready for use. Estimated shelf life of components is 18-24 months when stored in a dry area at 70°F (21°C). Actual shelf life may vary with storage conditions.</p> <p>If there is any question with respect to the quality of the components check reactivity prior to use. For assistance consult with Armor.</p>	

## TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	Gray, special colors on request Carbon grade is black
Wet density, silica grade Wet density, carbon grade	110 lb/ft <sup>3</sup> (1,762 kg/m <sup>3</sup> ) 101 lb/ft <sup>3</sup> (1,618 kg/m <sup>3</sup> )
Compressive strength, 7-day, ASTM C579	>9,000 psi (62 MPa)
Tensile strength, 7-day, ASTM C307	>1,700 psi (11.8 MPa)
Flexural strength, ASTM C580	>3,000 psi (20.7 MPa)
Bond to concrete, ASTM C321	Exceeds tensile strength of concrete
Shrinkage, ASTM C531	0.13%
Service temperature range, chemical dependent	170°F (77°C)

Rev 11/2025

## TERMS AND CONDITIONS OF SALE

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