

*CE-245bM*  
*11/12 Supersedes 11/06*

### **PENNTROWEL<sup>®</sup> VINYL ESTER 60 / 60 MR LINING**

#### **DESCRIPTION**

PENNTROWEL Vinyl Ester 60 / 60 MR Lining is a 1.5 mm vinyl ester-based monolithic lining system. The system consists of a penetrating primer, followed by a 1.5 mm trowel applied base coat. An optional final topcoat can be added to seal the lining and adjust finished surface texture.

To upgrade the system, PENNTROWEL Vinyl Ester 60 *MR* can be specified. This option incorporates a glass mat reinforcement layer and saturant over the primer to minimize crack transmission into the lining in the event cracks emanate from the concrete.

For immersion service Corrosion Engineering recommends specifying the upgraded *MR* system. PENNTROWEL Vinyl Ester 60 MR Lining has been formulated to perform in chemical immersion, as well as splash and spill. The system can perform well in the wide range of temperatures common to sumps, trenches, pits and vessels. **Consult Corrosion Engineering specification CES-365 for complete usage and installation details.**

#### **AREAS OF USE**

PENNTROWEL Vinyl Ester 60 MR Lining is used to protect concrete and steel substrates in trenches, pits, vessels, sumps, manways, and floors - both in and out of doors, that are subjected to a wide variety of corrosive agents.

Ideal as a secondary containment lining.

NOTE: Use PENNTROWEL Vinyl Ester 60 MR *Carbon Grade* in hydrofluoric acid or hot caustic chemical service. Consult Corrosion Engineering for details.

#### **OUTSTANDING FEATURES**

- Excellent physical properties.
- Extremely low absorption and shrinkage.
- Excellent chemical resistance.
- Reinforcing adds strength thus reducing the possibility of cracking

**TYPICAL PHYSICAL PROPERTIES**

PROPERTY	SILICA	CARBON
Wet density	1.8	1.8
Compressive strength (ASTM C-579)	99.0 MPa	138.0 MPa
Tensile strength (ASTM C-307)	12.4 MPa	15.1 MPa
Coefficient of expansion, in./in/°C (ASTM C-531)	2.0 x 10 <sup>-5</sup>	nt
Shrinkage, (ASTM C-531) @ 28 days	0.2%	0.8%
Modulus of elasticity (ASTM C-580)	1.7 x 10 <sup>6</sup>	1.05 x 10 <sup>6</sup>
Flexural strength (ASTM C-580)	24.1 MPa	33.0 MPa
Service temperature limit (Depending on chemical exposure)	107°C	107°C
Mix Ratio Resin:Hardener:Filler - By weight	1.0:0.02:2.5	1.0:0.02:2.0

**ESTIMATING/PACKAGING THEORETICAL QUANTITIES – NO OVERAGE ALLOWANCE**

STEP	PRODUCT	CODE	PACKAGING	COVERAGE*
Primer	PT VE Primer Resin	50101	29 Kg pail	0.3 Kg/m <sup>2</sup> @ 0.28 mm
	PT VE Primer Resin	50106	4.0 Kg can	
Silica L/F Base	PT VE Resin Grey	50113	29 kg pail	2.7 kg/m <sup>2</sup> @ 1.5 mm
	PT L/F Filler	50305	25 kg bag	
Cloth	300 gm L/F Reinforcing Mat	--	per sm	per sm
Saturant for cloth	PT VE Resin Clear	50112	29 kg pail	0.8 ~ 1.0 kg catalyzed resin / m <sup>2</sup>
For <b>PENNTROWEL VE L/F Carbon</b> , substitute the following for Base/Build Coat and Cloth layers above				
Carbon L/F Base	PT VE Resin Grey	50113	29 kg pail	2.7 kg/m <sup>2</sup> @ 1.5 mm
	PT L/F Filler Carbon	50306	25 kg bag	
Carbon L/F Reinforcing Cloth	Nexus <sup>®</sup> Veil Reinforcing cloth	50703	per sm	per sm
Catalyst	CHP Hardener	50109	400 gm bottle	1.5-2.25% addition by wt of resin

\* Note: Consumption is theoretical and does not allow for surface irregularities, pail loss or normal wastage.

**SAFETY PRECAUTIONS / DISCLAIMER**

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 material safety data sheets before using. While all statements, technical information, and recommendations contained herein are based on information our company believes to be reliable, nothing contained herein shall constitute any warranty, express or implied, with respect to the products and/or services described herein and any such warranties are expressly disclaimed. We recommend that the prospective purchaser or user independently determine the suitability of our product(s) for their intended use. No statement, information or recommendation with respect to our products, whether contained herein or otherwise communicated, shall be legally binding upon us unless expressly set forth in a written agreement between us and the purchaser/user.



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