Penntrowel™ Vinyl Ester L/F Lining System

SELECTION & SPECIFICATION DATA

Type

Mat reinforced vinyl ester lining

Description

Penntrowel Vinyl Ester L/F Lining System is a multi-layer mat reinforced trowel applied high functional novolac vinyl ester laminate lining/flooring system suitable for severe chemical service conditions.

Uses

- Trenches
- Sumps and pits
- Tanks and process vessels
- Floors

Features

- Novolac vinyl ester resin technology
- Resistant to oxidizing chemicals
- Resistant to bleaches such as chlorine and chlorine dioxide
- Incorporated heavy 9.8 oz mat reinforcing for maximum thermal stress service
- Crack bridging capabilities
- Durable and resistant under repeated thermal stresses
- Optional carbon grade for hydrofluoric acid and strong caustic service

Limitations

Not for use beyond its chemical resistance capabilities. Consult ErgonArmor with specific questions.

INSTALLATION GUIDANCE

Reference Specifications

CES-352 Penntrowel L/F Lining System Installation Specification

Installation Conditions

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.

Mixing/Use

1 gallon resin: 2-3 fl. oz. hardener by volume.
1-part catalyzed resin: 3.5 parts filler by weight.
Mix ratio for carbon grade is 1-part catalyzed resin to 2.25 parts Filler.

Consult packaging on page 2 for component package sizes. Empty Part A resin and measured 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 base coat to a nominal 1/16" (1.66 mm) thickness. Lay reinforcing mat into wet basecoat. Using a serrated roller apply more catalyzed resin onto the mat and work mat into the base coat, eliminating bubbles and wrinkles. Use smaller pieces of cloth for corners and intricate work. Allow mat reinforcing layer to set hard. Once cured apply a build coat following same mixing and usage rates as the base coat. Trowel lightly to smooth and close the surface. Use a short nap roller lightly dampened with Finishing Solution to further smooth the surface. Allow to cure per cure time information below before putting into service.

Work Life

30-40 minutes at 70°F (21°C)

Cleanup

MEK

CURE TIME

Temperature	Initial Set	Full Cure
70°F (21°C)	1-2 hours	24 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 Vinyl Ester Resin Gray	19636	4 x 7.9 lb/3.6 kg (0.9 gal/3.4 l) cans/cs
CHP Hardener	19552	0.75 lb/0.34 kg (0.7 pint/11 oz/331 cc) bottle
L/F Filler Silica	19642	55 lb (25 kg) bag
L/F Filler Carbon	29446	36 lb (16.3 kg) bag
L/F Reinforcing mat	19513	38 in. x 400 ft (1200 sf/111.5 sm) roll
Synthetic veil reinforcing cloth	21925	48 in. x 500 yd (6000 sf/557 sm) roll
Finishing Solution	19512	1 gallon (3.8 l) can

Theoretical Coverage

Silica grade: A 142 lb/1.23 cu ft (64.4 kg/34.8 l) unit consists of 1 case of resin, 1 bottle of hardener and 2 x 55 lb bags of filler and will cover 236 sf (21.9 sm) at 1/16" (1.6 mm) thickness. Base coat and build coat each require the same consumption, above should be doubled for full system requirements.

Carbon grade: A 104 lb/1.0 cu ft (47.1 kg/28.3 l) unit consists of 1 case of resin, 1 bottle of hardener and 2 x 36 lb bags of filler and will cover 192 sf (17.8 sm) at 1/16" (1.6 mm) thickness. Base coat and build coat each require the same consumption, above should be doubled for full system requirements.

When neat resin and hardener is mixed and used as a saturant for the reinforcing layer allow 360 sf (33.4 sm) per 3.6-gallon (13.6 l) unit.

Finishing Solution coverage is 250 sf/gallon (6.2 sm/l)

Storage & Shelf Life

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.

If there is any question with respect to the quality of the components check reactivity prior to use. For assistance consult with ErgonArmor.

TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	Gray, special colors on request Carbon grade is black
Wet density, silica grade Wet density, carbon grade	115 lb/ft^3 (1,842 kg/m^3) 102 lb/ft^3 (1,634 kg/m^3)
Compressive strength, 7-day, ASTM C579	>13,000 psi (90 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	0.2%
Service temperature range, chemical dependent	225°F (107°C)

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