

**CE-273**

**09/13 Supersedes 07/01**

### **PENNCOAT<sup>®</sup> 321 LINING**

#### **DESCRIPTION**

PENNCOAT 321 is an 80 mil glass-flake filled lining based on epoxy novolac vinyl ester resin chemistry. It is trowel applied in 2 x 40 mil WFT coats. **Consult Corrosion Engineering specification [CES-342](#) for complete installation details.**

#### **AREAS OF USE**

PENNCOAT 321 can be used as a chemical resistant lining for immersion service on concrete or steel. It can be used as a lining for vessels, sumps, pits, trenches, walls and floors. PENNCOAT 321 is a durable lining for immersion service or flue gas handling equipment such as duct work, scrubbers or stacks. In flue gas handling equipment, it can be use as a stand alone lining, or also as a membrane under brick or refractory linings when its service temperature or abrasion resistance limits are exceeded. It offers outstanding chemical resistance for severe environments, including oxidizing acids. PENNCOAT 321 is resistant to a wide range of acids, alkalis, solvents, salts and other chemicals. Contact your Corrosion Engineering representative for specific recommendations.

PENNCOAT 321 lining will protect concrete and steel in immersion up to 170°F, and splash and spill environments up to 250°F. The glass flakes and 80 mil thickness offer better durability in immersion conditions, which may be erosive or abrasive to thinner unfilled linings.

#### **OUTSTANDING FEATURES**

- 80 mil glass-flake linings offer superior mechanical and physical durability over thin 30-40 mil coatings.
- Resistant to a wide range of acids, alkalis, solvents and other corrosive chemicals. Will resist up to 70% sulfuric, as well as nitric, phosphoric and acetic acids.
- Low permeability.
- Excellent resistance to oxidizing chemicals such as chlorine dioxide and bleaching solutions.

**TYPICAL PHYSICAL PROPERTIES**

PROPERTY	PENNCOAT 321 LINING
Color	Basecoat - white, topcoat - grey
Primer	PENNTROWEL® Vinyl Ester Primer is used to prime concrete prior to application of PENNCOAT 321. For steel substrates, PENNCOAT 321 may be applied direct to sandblasted steel, but a primer is recommended to hold the blasted profile.
Mix Ratio of Resin to Hardener by Weight	1.0 : 0.013
Density	9.46 lb. per gallon
Work Life at 70°F	1 to 1½ hours
Set Time at 70°F	1¼ to 1¾ hours
Barcol hardness	>90
Tensile Strength	2750- 3200 psi at 7 days
Moisture Permeability	0.002 perm-Inch
Maximum Service Temperature	Continuous Immersion: 170 °F Splash and Spill: 220 °F Flue Gas Environment: 250 °F

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

PRODUCT	CODE	PACKAGING	COVERAGE
PENNTROWEL® VE Primer Resin	19515	5 gal (43 lb) pail	5 gallon unit consists of 1 x 5 gal pail PENNTROWEL VE Primer Resin, and 1 x 0.7 pint bottle of CHP Hardener. Theoretical coverage on concrete is 750 SF/unit (150 SF/gal) at 10 mils WFT, and 1250 SF/unit (250 SF/gal) on steel.
CHP Hardener	19552	0.7 pint (0.75 lb) bottle	
PENNCOAT® 321 Basecoat Resin - White	28900	2.9 gal (27 lb). pail	A 6 gallon unit of PENNCOAT 321 basecoat or Topcoat consists of 2 x 2.9 gal (27 lb) pails of resin, and 1 x 0.7 pint bottle of CHP hardener. Coverage is 240 SF/ per 6 gal unit at 40 mils WFT (40 SF/gal). 2 x 40 mil coats are required to achieve total lining thickness of 80 mils.
PENNCOAT® 321 Topcoat Resin - Gray	28899	2.9 gal (27 lb). pail	
CHP Hardener	19552	0.7 pint (0.75 lb) bottle	

**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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