

**CE-220**  
**05/13 Supersedes 08/02**

### ***PENNGUARD<sup>®</sup> ADHESIVE/MEMBRANE***

#### **DESCRIPTION**

PENNGUARD Adhesive/Membrane is a 2-component, elastomeric, trowel applied, urethane-asphalt mastic adhesive. The membrane has excellent chemical resistance to a variety of acids, alkaline and salt solutions. **Refer to Corrosion Engineering specification [CES-350](#) entitled “Specification for Installation, PENNGUARD Block Lining System” for complete installation details.**

#### **AREAS OF USE**

PENNGUARD Adhesive/Membrane is designed for use in flue gas environments as typically encountered in coal fired power plants. PENNGUARD Adhesive/Membrane is used as a part of Corrosion Engineering’s unique PENNGUARD Block Lining System. It functions as the underlying membrane beneath the insulating PENNGUARD Block layer, protecting the substrate from chemical attack. It also serves as an adhesive to bond the PENNGUARD Block (both 28 and 55 grades) to suitably prepared substrates such as steel, concrete, FRP, and brick. For concrete and brick substrates, use with PENNTROWEL<sup>®</sup> Epoxy Primer (CE-139). On steel substrates, no primer is required for adhesion, but PENNGUARD Block Primer (CE-227) is recommended to prevent re-rusting of the blasted surface.

PENNGUARD Adhesive/Membrane is used to fill side joints between the individual pieces of PENNGUARD Block within its service temperature limits. Consult Corrosion Engineering for project specific recommendations. PENNGUARD Adhesive/Membrane may also be used as a trowel-applied protective membrane under chemically-resistant masonry/monolithics, or even used as an independent elastomeric lining.

#### **OUTSTANDING FEATURES**

- Excellent resistance to corrosive flue gas environments
- Remains elastomeric and flexible up to its service temperature limits
- Resistant to moderate concentrations of mineral acids, and salt solutions
- Able to bridge hairline cracks in concrete and brick substrates

**TYPICAL PHYSICAL PROPERTIES**

<b>PROPERTY</b>	<b>PENNGUARD Adhesive/Membrane</b>
Service Temperature Behind PENNGUARD Adhesive/Membrane (PGAM) Block (at bond line)	-40°F to 200°F (-40°C to 93°C) Note: Experience has indicated the service temperature of PGAM in side joints of a PENNGUARD Block Lining is significantly higher than values stated above. Consult Corrosion Engineering for maximum service temperature limits for specific applications.
Tensile Strength @ 74°F (ASTM D412 die D)	>100 psi (0.69 MPa)
Elongation @ 74°F (ASTM D412 die D)	> 100%
Bond Strength to Carbon Steel (ASTM D4541)	>100 psi (0.69 MPa)
Flash Point Component A (Pensky Martens Closed Cup ASTM D93). Component B (Cleveland Opened Cup)	100°F (38°C) 415°F (213°C)
Mix Ratio Component A : Component B	46:1 by weight. Mix full units only.
Wet Mix Weight (ASTM D71)	8.7 lbs / gal. (1.04 kg/liter)
Pot Life @ 70°F (21°C approximate)	45 minutes
Shelf Life	One year. Store between 0°F and 90°F (-18°C to 32°C)
Color and Appearance	Black elastomeric rubber
Resistance to Abrasion by Sandblast (FED-TT-C-520)	Excellent

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

<b>PRODUCT</b>	<b>CODE</b>	<b>PACKAGING</b>	<b>COVERAGE</b>
Pennguard Adhesive/Membrane Part A	19671 (ground shipment) 19672 (air and sea shipments)	4 gallon Unit 4 gallon pail (Part A only)	90* pieces of 1.5" x 6" x 9" PG Block* 1/8" (3.0 mm) joints theoretical
Urethane Asphalt Hardener Part B	29488 29565	0.6 Lb (341 gm) Btl 20 x 0.6 Lb (341 gm) Case	82* pieces of 2" x 6' x 9" PG Block* 1/8" (3.0 mm) joints theoretical

\* **NOTE: Experience has indicated a 1/3 reduction in the number of pieces installed per unit when overage and wastage is considered.**

**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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