

**Guide Specification****PART 1 GENERAL****1.1 SUMMARY**

- A. Provide labor, materials, equipment and supervision necessary to install cold fluid-applied membrane coating materials as outlined in this specification to new or existing concrete surfaces.
- B. The manufacturer's application instructions for each product used are considered part of this specification and should be followed at all times.
- C. Related Sections:
 - 1. Section 03 30 00 - Cast-in-Place Concrete
 - 2. Section 03 40 00 - Precast Concrete
 - 3. Section 04 00 00 - Masonry
 - 4. Section 07 90 00 - Joint Protection
 - 5. Section 07 20 00 - Thermal Protection

1.2 SYSTEM DESCRIPTION

- A. Perma-Gard III shall be a complete system of compatible materials as supplied by NEOGARD to create a seamless waterproof membrane.
- B. Perma-Gard III shall be designated for application on the specific type of deck indicated on the drawings.

1.3 SUBMITTALS

- A. Product Data: Submit NEOGARD® product literature and installation instructions.
- B. Project Reference List: Submit list of projects as required by this specification.
- C. Samples: Submit samples of specified cold fluid-applied waterproofing. Samples shall be construed as examples of finished color only.
- D. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the specified cold fluid-applied waterproofing materials.
- E. Warranty: Submit copy of manufacturer's standard warranty identifying the terms and conditions to cover a period of 5 years.

1.4 QUALITY ASSURANCE

- A. Supplier Qualifications: Perma-Gard III, as supplied by NEOGARD®, is approved for use on this project.
- B. Applicator Qualifications: Applicators shall be approved to install specified materials.
- C. Requirement of Regulatory Agencies: Specified materials shall meet existing Federal, State and local VOC regulations.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.
- B. Storage and Handling: Recommended material storage temperature is 75°F. Handle products to avoid damage to container. Do not store for long periods in direct sunlight.

1.6 PROJECT CONDITIONS

- A. Do not proceed with application of materials when deck temperature is less than 40°F, if precipitation is imminent or to a damp or frosty surface.
- B. Coordinate waterproofing work with other trades to ensure adequate illumination, ventilation, and dust-free environment during application and curing of membrane. Applicator shall have sole right of access to the specified areas for the time needed to complete the application and allow the membrane to cure adequately.
- C. Protect adjoining surfaces not to be coated, against damage or soiling. Protect plants and vegetation which might be affected by waterproofing operations.
- D. Warn personnel against breathing of vapors and contact of material with skin or eyes. Wear applicable protective clothing and respiratory protection gear. Read and follow the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- E. Keep products away from spark or flame. Do not allow the use of spark-producing equipment during application and until all vapors have dissipated. Post "NO SMOKING" sign.
- F. Maintain work area in a neat and orderly conditions, removing empty containers, rags, and rubbish daily from the site.

1.7 WARRANTY

- A. Upon request, NEOGARD® shall offer a 5 year manufacturer's standard warranty upon receipt of a properly executed warranty request form.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. NEOGARD® Division of Jones-Blair® Company, 2728 Empire Central, Dallas, TX 75235, (800) 321-6588, www.neogard.com.

2.2 MATERIALS

- A. Cold Fluid-Applied Waterproofing Materials:
1. Primer: Concrete and metal primers as required by NEOGARD.
 2. Vertical Additive: 7922 to enhance sag resistant properties of membrane waterproofing material.
 3. Flashing Tape: 86218 or approved equal having a minimum thickness of 30 mils.
 4. Reinforcing Fabric: 86220 stitchbond polyester fabric.
 5. Liquid Flashing: 7401 polyurethane coating.
 6. Membrane Waterproofing Material: 7401 polyurethane coating.
 7. Sealant: 70991 sealant, or other polyurethane sealant approved by NEOGARD.

2.3 MATERIAL PERFORMANCE CRITERIA

- A. Typical performance requirements of 7401 polyurethane coating used on this project are:

PERFORMANCE REQUIREMENTS OF CURED FILM		
PHYSICAL PROPERTIES	TEST METHOD	RESULTS
Tensile Strength	ASTM D412	250 psi
Elongation	ASTM D412	500%
Permanent Set	ASTM D412	25%
Water Resistance	ASTM D471	<3%
MVT @ 60 Dry Mils	ASTM E96	0.60 English
Shore A	ASTM D2240	30 - 40
Adhesion	ASTM D4541	200 psi

2.4 ACCESSORIES

- A. Joint Backing: Closed-cell polyethylene foam rod.
- B. Protection Course: Protection board shall be a minimum 1/8" nominal thickness, premolded bitumen composition board or other composition compatible with the membrane waterproofing material. Note: Prefabricated drainage system (PDS) is suitable for use as protection course.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Concrete: Verify that the work done under other sections meets the following requirements:
1. The concrete deck surface is free of ridges and sharp projections. If metal forms or decks are used, they should be ventilated to permit adequate drying of concrete on exterior exposed deck.
 2. The concrete was cured for a minimum of 28 days. (Minimum of 3,000 psi compressive strength). Water-cured treatment of concrete is preferred. The use of concrete curing agents, if any, shall be of the sodium silicate base only; others require written approval by NEOGARD.
 3. The concrete was finished by a power or hand steel trowel followed by soft hair broom to obtain light texture or "sidewalk" finish.
 4. The concrete does not contain voids or gaps, or "honey-comb" surfaces.
 5. Surfaces to receive fluid-applied waterproofing are free of oil, grease, dirt, debris, etc.

3.2 PREPARATION

- A. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a power broom and a strong non-sudsing detergent. Thoroughly wash, clean, and dry.
- B. Cracks and Cold Joints: Visible hairline cracks (up to 1/16" in width) in concrete and cold joints shall be cleaned and treated with liquid flashing a minimum distance of 2" on each side of crack to yield a total thickness of 30 dry mils. Large cracks (over 1/16" in width) shall be routed and sealed with sealant. Sealant shall be applied to inside area of crack only, not applied to deck surface. Detail sealed cracks with liquid flashing a distance of 2" on each side of crack to yield a total thickness of 30 dry mils.
- C. Control Joints: Seal secondary control joints with sealant. Sealant shall be applied to inside area of joint only, not applied to deck surface. Detail sealed joints with liquid flashing a distance of 2" on each side of joint to yield a total thickness of 30 dry mils.
- D. Flashing Tape: Install flashing tape where indicated on the drawings prior to the application of elastomeric coating.
- E. Surface Condition: Surface shall be free from oil, grease or other contaminants and be clean and dry prior to coating.

3.3 APPLICATION

- A. Membrane Waterproofing Application: Apply 4¼ gallons of membrane waterproofing material per 100

square feet in a minimum of 2 coats in strict accordance with procedures recommended by NEOGARD. Total system dry film thickness shall average 55 dry mils (0.055"). Note: Vertical surfaces will require the use of 7922 vertical additive added to the membrane waterproofing material at a rate of 8 ounces per 5 gallons. After mixing, an induction time of 30 minutes is required to achieve a sag resistance of 16 - 18 mils.

- B. Flood Test: Follow ASTM D5957 standard guide for flood testing horizontal waterproofing installations.
1. Waterproofed area shall be flood tested for 48 hours after system has cured (24 hours at 75°F and 50% relative humidity) and prior to installation of protection course.

2. Plug drains on deck surfaces and use sand bags or other means to contain the water.
3. Flood test to a depth of 2 inches for the duration of the test.
4. Repair any leaks that may appear.

- C. Protection Course: Apply horizontal and/or vertical protection boards in accordance with procedures recommended by the manufacturer of the protection board.

3.4 CLEANING

- A. Remove debris resulting from completion of coating operation from the project site.

END OF SECTION

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