



Guide Specification

Fluid-Applied Membrane Waterproofing

Perma-Gard III

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide labor, materials, equipment and supervision necessary to install a fluid-applied membrane coating system as outlined in this specification to new or existing concrete surfaces.
- B. The manufacturers application instructions for each product used are considered part of this specification and should be followed at all times.
- C. Related Sections:
 - 1. Brick Pavers: Section 02_____.
 - 2. Paving and Surfacing: Section 026_____.
 - 3. Expansion and Contraction Joints: Section 031_____.
 - 4. Cast-in-Place Concrete: Section 033_____.
 - 5. Precast Concrete: Section 034_____.
 - 6. Protection Course: Section 071_____.
 - 7. Insulation: Section 072_____.

1.02 SYSTEM DESCRIPTION

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

1.03 SUBMITTALS

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

1.04 QUALITY ASSURANCE

- A. Supplier Qualifications: The Perma-Gard III membrane waterproofing system as supplied by Neogard is approved for use on this project.
- B. Applicator Qualifications: Applicators shall be approved to install specified system.
- C. Requirements of Regulatory Agencies: Materials used in the membrane waterproofing system shall meet Federal, State and local VOC regulations.

1.05 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.

1.06 JOB CONDITIONS

- A. Environmental Conditions:
 - 1. Do not proceed with application of materials when deck temperature is less than 40°F.
 - 2. Do not apply materials unless surface to receive coating is clean and dry, or if precipitation is imminent.
- B. Safety and Health Conditions:
 - 1. During coating application, it is **essential** that maximum effort is made to protect the coating mechanic and others near the workplace from breathing vapors and coming in contact of material with skin or eyes.
 - 2. In confined areas, the best form of protection against organic solvents or other potentially sensitizing vapors is a **fresh air supply**. For maximum protection, it is recommended to use a NIOSH/MSHA-approved, self-contained breathing apparatus with a full-face piece operated in a positive pressure mode.
 - 3. In unrestricted (open outdoor) areas, it is recommended to wear a suitable mask or respirator of a type approved by NIOSH/MSHA.
 - 4. To prevent excessive skin contact with the material, it is recommended to use fabric coveralls and neoprene or other resistant gloves. To prevent eye contact, wear a full-face mask or OSHA-approved protective goggles.
- C. Protection:
 - 1. Keep products away from heat, sparks, and flames. Do not allow use of spark producing equipment during application and until vapors are gone. Post "No Smoking" signs.
 - 2. The solvents from coating materials can carry considerable distances and care should be taken to do the following:
 - a. Post warning signs a minimum of 100 feet from the work area.
 - b. Cover all intake vents near the work area.
 - c. Minimize or exclude all personnel not directly involved with the coating application.
 - d. Have CO₂ or other dry chemical fire extinguishers available at the jobsite.
 - e. Provide adequate ventilation.
 - 3. After completion of application, do not allow traffic on coated surfaces until the coating material has cured and the protection course is in place.
 - 4. Protect plants, vegetation and animals which might be affected by coating. Use drop cloths or masking as required.

PART 2-PRODUCTS

2.01 MATERIALS

- A. Membrane Waterproofing System Materials:
 1. Sheet Flashing: 6" or 12" wide uncured non-staining elastomeric sheet flashing material having a minimum thickness of 60 mils.
 2. Liquid Flashing: 7401 single component modified, moisture-cure polyurethane.
 3. Membrane Waterproofing Material: 7401 single component modified, moisture-cure polyurethane.
 4. Sealant: 70991 sealant, or other polyurethane sealant approved by Neogard.
 5. Protection Course: Protection board shall be a minimum 1/8" nominal thickness, premolded bitumen composition board or other composition compatible with fluid-applied membrane. Note: Prefabricated drainage system (PDDS) is suitable for use as protection course.

2.02 MATERIAL PERFORMANCE CRITERIA

- A. Minimum performance requirements for the membrane waterproofing system to be 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 mils	ASTM E96	0.60 English
Shore A	ASTM D2240	30 - 40
Adhesion	ASTM D4541	200 psi

PART 3-EXECUTION

3.01 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.

3.02 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, Cold Joints and Control Joints: Visible hairline cracks (up to 1/16" in width) in concrete shall be cleaned and treated with modified polyurethane coating material 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), cold joints and control joints shall be detailed with sheet flashing.
- C. Sheet Flashing: Install sheet flashing where indicated on the drawings and as noted above in 3.02B. Apply sheet flashing prior to the application of the membrane waterproofing material.
- D. Surface Condition: Surface shall be free from oil, grease or other contaminants and be clean and dry prior to coating.

3.03 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 require additional coats to achieve 55 dry mils.
- B. Protection Course: Apply horizontal and/or vertical protection boards in accordance with procedures recommended by the manufacturer of the protection board. Note: Thickness values of cured film are averages and can vary due to finish of surface.

3.04 FIELD QUALITY CONTROL

- A. Flood Testing Procedure:
 1. Waterproofed area shall be flood tested for 24 hours after system has cured (24 hours at 75°F and 50% relative humidity) and prior to installation of protection course.
 2. Plug drains and place barriers 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.

3.05 PATCHING

- A. Should the Perma-Gard III waterproofing membrane be damaged by penetration, wet-wipe the area surrounding the penetration with solvent, and apply Perma-Gard III material to the affected area.

3.06 CLEANING

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

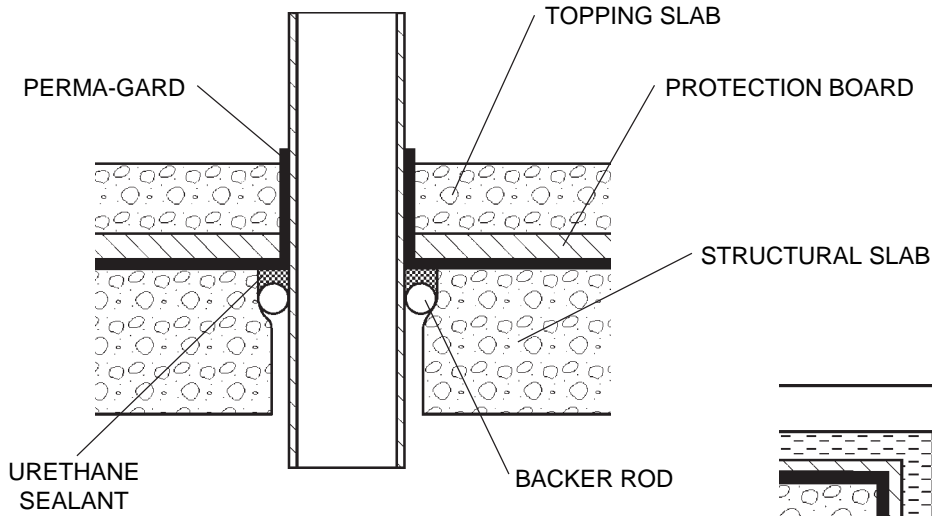
MEMBRANE WATERPROOFING DETAILS

Details are an important part of any elastomeric coating project. These details represent situations that appear most often in common roofing or waterproofing installations, and are intended to serve as guidelines in the engineering phase of the job.

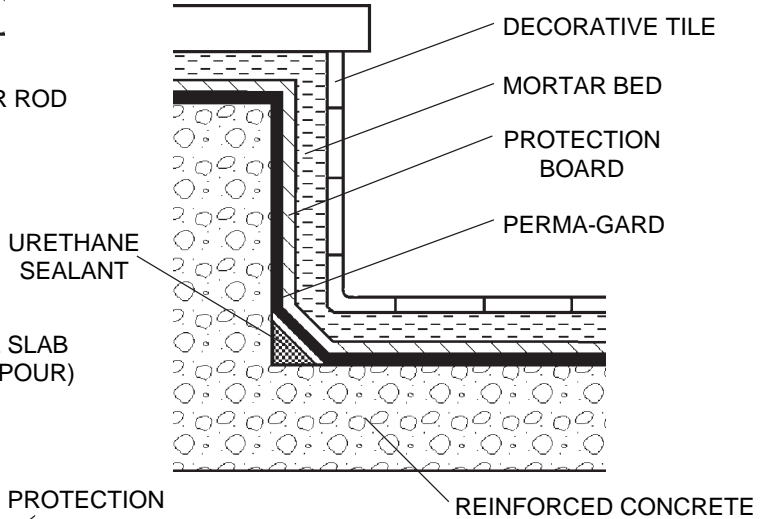
Conditions and requirements will often be unique, and special attention, including the modification of details, may sometimes be necessary in specific situations.

The drawings are enhanced artistic representations, and the actual field conditions will dictate the aesthetic appearance of the completed installation.

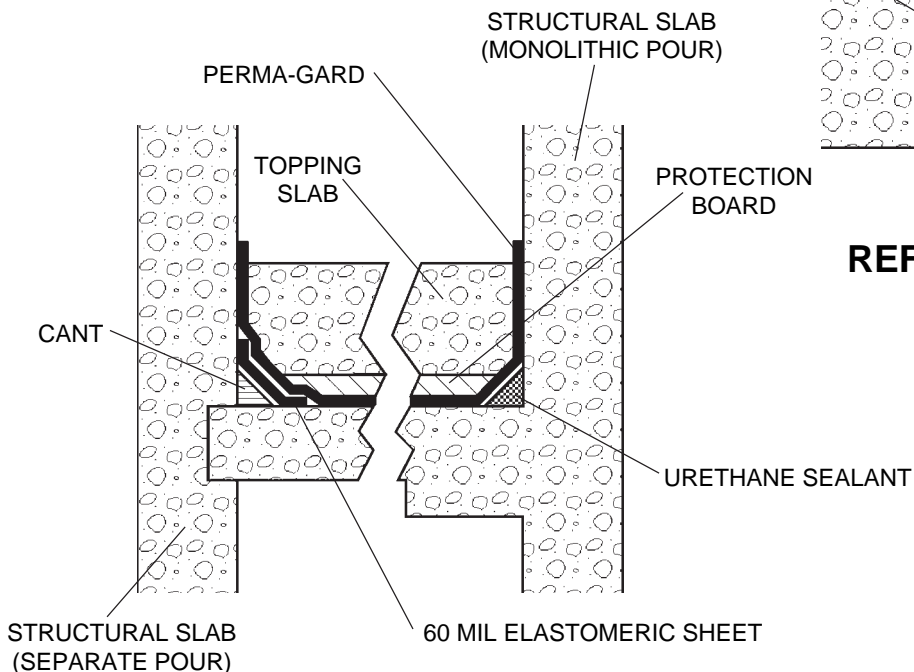
The membrane waterproofing details are designed for non-exposed applications such as foundation waterproofing, or split slab construction. Generally, the systems involved would be the PERMA-GARD series. The exception to this is in the application of thin-set tile over the waterproofing membrane. In this application, we recommend the PEDA-GARD system be applied.



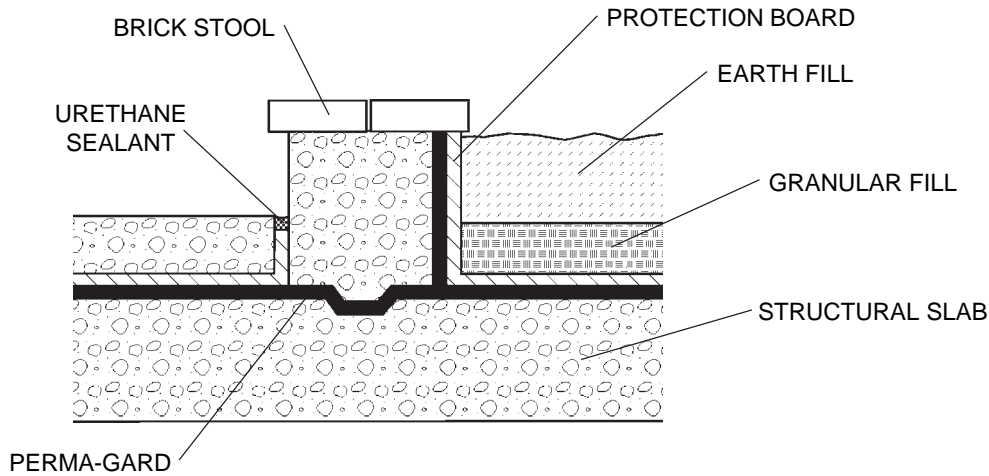
VERTICAL PROJECTION



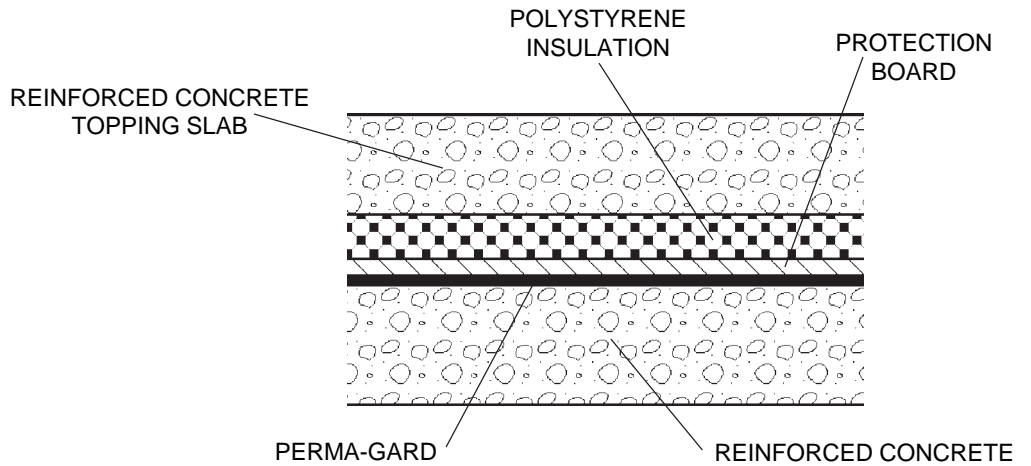
REFLECTING POOLS



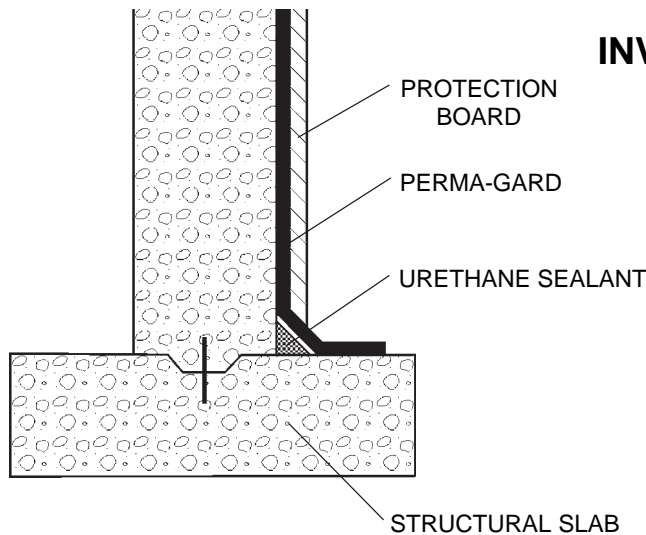
TYPICAL DECK FLASHING



PLANTER BOX DETAIL



INVERTED MEMBRANE ROOF



FOOTING DETAIL

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