

POLYGUARD 665 MEMBRANE SPECIFICATION FOR WATERPROOFING BRIDGE DECKS AND PARKING GARAGES

PART 1 - GENERAL

DESCRIPTION:

The work in this section includes requirements for membrane waterproofing of bridge decks, parking garages and parking lots.

Related work specified elsewhere:

- Concrete Work: Section _____
- Prefabricated Expansion Joints: Section _____
- Sealants and Caulking: Section _____
- Drains: Section _____

SUBMITTALS:

- Submit the following samples for approval:
 - 1) One square foot sample of **POLYGUARD 665 MEMBRANE**
 - 2) One pint of **POLYGUARD LIQUID ADHESIVE** (*which is applicable for use on the project*).
- Submit copies of manufacturer's product description, product usage, and product application for all materials proposed for use on the project.

DELIVERY AND HANDLING:

Delivery: Materials should be delivered in manufacturer's original, unopened packaging with labels attached.

Handling: All materials must be handled in a manner to prevent damage. Any material damaged must be removed from the project area and replaced with new material.

POLYGUARD products must be handled in accordance with **POLYGUARD PRODUCTS, INC.** guidelines. **LIQUID ADHESIVES** and **MASTICS** are solvent based liquids and are flammable. No open flames, sparks, or smoking should be allowed in the immediate area.

JOB CONDITIONS:

POLYGUARD WATERPROOFING MATERIALS should only be applied under proper weather conditions. **665 MEMBRANE** should be applied at temperatures of 40° and above.

All concrete must be cured a minimum of seven days and be dry to the touch before applying **POLYGUARD WATERPROOFING**. Lightweight structural concrete must be dried a minimum of 14 days prior to waterproofing application.

All drains, curbs, and protrusions must be in place before waterproofing application begins.

Surfaces to receive the **POLYGUARD WATERPROOFING SYSTEM** materials must be smooth, dry, and free of dust, dirt, loose aggregate or other foreign materials.

Surfaces must be free of voids, spalled areas, loose aggregate, and sharp protrusions. Surfaces must be free of contaminants from release agents that contain wax, oil, silicone, or pigment.

The concrete surface must resemble a trowelled texture. A float finish is generally acceptable. Broom finished concrete is not acceptable.



This Information is based on our best knowledge, but
POLYGUARD cannot guarantee the results to be obtained

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As of 8/1/2001, Polyguard Products' quality system has been certified to the following quality system requirements:
• ANSI/ASQC
• DUTCH COUNCIL FOR CERTIFICATION
• STANDARDS COUNCIL OF CANADA

PART 2 - PRODUCTS

MATERIALS:

POLYGUARD 665 WATERPROOFING MEMBRANE is self-adhering membrane consisting of rubberized asphalt laminated to polypropylene mesh to form a minimum 65 mil membrane. **665 MEMBRANE** is 4 feet wide by 50 feet long. The membrane is delivered on a silicone release that serves as a carrier. The release liner is removed prior to application of the membrane. **665 MEMBRANE** is completely cold-applied and requires no special adhesives or heating equipment.

665 MEMBRANE will meet the following physical properties:

| PROPERTY/UNIT | TEST METHOD | TYPICAL VALUE |
|--|--------------------------------|---|
| Thickness | | 65 mils |
| Tensile Strength | ASTM D 882 (<i>Method A</i>) | 90 lbs./in. Width |
| Puncture Resistance | ASTM E 154 | 200 lbs. |
| Permeance - Perms | ASTM E 96 (<i>Method B</i>) | 0.1 max |
| Elongation | ASTM D 4632 | 15% |
| Pliability at low temperatures (0°F., -15°F., -25°F)* | ASTM D 146 (<i>Modified</i>) | No cracks in fabric or rubberized asphalt |

* **POLYGUARD 665** is manufactured to the specifications of D.O.T's. Most material shipped meets a -15° specification. However, if an agency has specified a higher or lower pliability specification, the product will be produced with a formulation meeting those requirements.

INSTALLATION:

PRIMING:

- 1) Never apply **Polyguard Liquid Adhesive** to wet or frozen surfaces.
- 2) When substrate is ready, apply **Polyguard Liquid Adhesive** at a rate of 400 square feet per gallon (250 square feet on milled surfaces) using lambswool roller, brush, squeegee, or spray apparatus.
- 3) Allow primer to dry until tack-free.
- 4) Prime only the area which can be covered with membrane in the same working day. Areas primed and not covered with membrane within 24 hours should be reprimed. Smoothness and porosity of the concrete will effect coverage rate.
- 5) Do not apply liquid adhesive at heavier rates than recommended. Excessive material build-up will delay drying and membrane application.

MEMBRANE INSTALLATION - HORIZONTAL SURFACES:

- 1) **POLYGUARD MEMBRANE** should be applied to the primed surface starting at the low point and working to the high point in a shingling technique.
- 2) Side laps should be a minimum of 2 ½ inches and end laps a minimum of 6 inches.
- 3) The entire membrane should be firmly rolled with a linoleum roller weighing approximately 75 pounds. This will insure excellent adhesion and minimize air pockets between the substrate and membrane.
- 4) At posts or projections, apply either a double layer of membrane going out at least 6 inches in all directions.
- 5) At drains, apply a double layer of **665 MEMBRANE**.
- 6) Inadequately lapped seams and damaged areas should be patched with small sections of **POLYGUARD MEMBRANE**. The patch area should extend at least 6 inches beyond the defect.
- 7) Fishmouths and severe wrinkles should be slit, flaps overlapped, and repaired as above.
- 8) All inside and outside corners shall be treated with 12 inch strips. The field membrane should be placed over the corner treatment. All inside corners shall have a minimum ¾ inch fillet of **LIQUID 95 MEMBRANE** or latex modified cement mortar.
- 9) Double ply all non-working joints or cracks over 3/16" width with a 6" to 12" piece of **665 MEMBRANE**.
- 10) If required by D.O.T. specification, mastic should be applied to edges, seams, and end terminations.
- 11) A tack coat of asphalt or asphalt emulsion is applied prior to the bituminous overlay.
- 12) It is recommended that the bituminous overlay be not less than 2" in thickness and not above 300° at time of application.
- 13) The use of vibratory rollers over Polyguard membrane is not recommended.

Limitations: If a Superpave overlay requiring higher paving temperatures than 300°F is specified, contact Polyguard for technical advice. Polypropylene backings are subject to high shrinkage at over 300°F