

POLYGUARD NW-75 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 *NW-75 Membrane*
 - 2) One pint of *650 RC Liquid Adhesive* (when applicable for use on the project).
 - 3) One tube of *650 Mastic*
 - 4) One quart of *LM95 Liquid Membrane*
- 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. *NW-75 Membrane* should be applied at temperatures of 45°F, 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 troweled texture. A float finish is generally acceptable. Broom finished concrete is not acceptable.

PART 2 - PRODUCTS

MANUFACTURER:

Products specified for waterproofing of bridge decks, parking garages and parking lots are manufactured by *Polyguard Products, Inc.*, PO Box 755 Ennis, Texas 75120-0755, phone: 214-515-5000. Website: www.PolyguardProducts.com

- *NW-75 Membrane*
- *650 RC Liquid Adhesive*
- *650 Mastic*
- *LM95 Liquid Membrane*

MATERIALS:

NW-75 Waterproofing Membrane is a self-adhering membrane consisting of rubberized asphalt laminated to a nonwoven polypropylene fabric to form a minimum 65 mil membrane. *NW-75 Membrane* is packaged in boxed rolls of the following dimensions: 12" x 200', 24" x 100' and 48" x 50', with each roll covering 200 square feet of surface. The membrane is delivered on a silicone release liner that serves as a carrier. The release liner is removed prior to application of the membrane. *NW-75 Membrane* is completely cold-applied and requires no special adhesives or heating equipment.

NW-75 MEMBRANE will meet the following physical properties:

PROPERTY/UNIT	TEST METHOD	MARV - ENGLISH	MARV - METRIC
Thickness	ASTM D 1777	65 mils.	1.651 mm
Strip Tensile Strength	ASTM D 882	50 lbs./in width	.222 kN
Grab Tensile Strength	ASTM D 4632	160 lbs.	0.711 kN
Puncture Resistance	ASTM E 154	200 lbs.	.889 kN
Permeance - Perms	ASTM E 96 (<i>Method B</i>)	0.05 max.	2.89 E-9 g/Pa s m ²
Elongation at break of fabric	ASTM D 4632	60%	60%
Pliability at low temperatures (-15°F)	ASTM D 146 (<i>Modified</i>)	No cracks	No cracks

650 RC LIQUID ADHESIVE will meet the following physical properties:

PROPERTY/UNIT	TEST METHOD	TYPICAL - ENGLISH	TYPICAL - METRIC
Color	-	Black	Black
Specific Gravity	ASTM D 891	.92	.92
Flash Point	ASTM D 56	105° F	41° C

650 MASTIC will meet the following physical properties:

PROPERTY/UNIT	TEST METHOD	TYPICAL - ENGLISH	TYPICAL - METRIC
Color	-	Black	Black
Specific Gravity	ASTM D 891	1.12	1.12
Flash Point	ASTM D 56	45° F	7° C

LM 95 LIQUID MEMBRANE MIXTURE will meet the following physical properties:

PROPERTY/UNIT	TEST METHOD	TYPICAL - ENGLISH	TYPICAL - METRIC
Description	-	2 Component Urethane Waterproofing – mix on job	
Solids Content	ASTM D 1754	100%	100%
Viscosity @ 80° F (27° C) Brookfield @ 20 RPM	ASTM D 2196	61	61

PART 3 – EXECUTION

INSTALLATION:

PRIMING:

- 1) Never apply *650 RC Liquid Adhesive* to wet or frozen surfaces.
- 2) When substrate is ready, apply *650 RC 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 affect coverage rate.
- 5) Do not apply liquid adhesive at heavier rates than recommended. Excessive material build-up will delay drying and membrane application.

NW-75 MEMBRANE INSTALLATION - HORIZONTAL SURFACES:

- 1) At curbs, posts or projections, apply a double layer of *NW-75 Membrane* going out at least 6 inches onto the horizontal, and 2" up the vertical face. Roll membrane firmly into the vertical/horizontal interface to eliminate any air pockets.
- 2) *NW-75 Membrane* should be applied to the primed surface starting at the low point and working to the high point using a shingling technique.

- 3) Side laps should be a minimum of 3 inches and end laps a minimum of 6 inches.
- 4) The entire membrane should be firmly rolled with a rubber tired asphalt roller or hand roller with a soft surface weighing at least 75 pounds. This will insure excellent adhesion and minimize air pockets between the substrate and membrane.
- 5) At posts or projections, apply either a double layer of *NW-75 Membrane* going out at least 6 inches in all directions.
- 6) At drains, apply a double layer of *NW-75 Membrane*.
- 7) Inadequately lapped seams and damaged areas should be patched with small sections of *NW-75 Membrane*. The patch area should extend at least 6 inches beyond the defect.
- 8) Fishmouths and severe wrinkles should be slit, flaps overlapped, and repaired as above.
- 9) All inside and outside corners shall be treated with 12 inch strips. The field membrane should be placed over the corner treatment. It is recommended that inside corners have a minimum $\frac{3}{4}$ inch fillet of *LM 95 Liquid Membrane* or latex modified cement mortar.
- 10) Double ply all non-working joints or cracks over $\frac{3}{16}$ " width with a 6" to 12" piece of *NW-75 Membrane*.
- 11) *650 Mastic* should be applied to all edges, overlapping seams, and end terminations. The recommended application rates for *650 Mastic* is:
 - * 100 linear feet of a 1" wide bead per gallon, if using material from 5 gallon pails, or...
 - * at the rate of 65 linear feet per 30 ounce tube, when applying a $\frac{1}{2}$ " wide bead.*650 Mastic* should then be worked into the seam with a trowel to insure proper sealing.
- 12) A tack coat of asphalt or asphalt emulsion is applied prior to the bituminous overlay.
- 13) It is recommended that the bituminous overlay be not less than 1.5" in thickness after compaction.
- 14) The use of vibratory rollers over *Polyguard Membrane* is not recommended.

END OF SECTION