LEGACY REPORT

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Legacy report on the 1997 Uniform Building Code™

DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07140—Fluid-applied Waterproofing
Section: 07180—Traffic Coatings

POLYCOAT AND POLYTUFF SYSTEMS INTERNATIONAL
(PSI) WALKING DECK SYSTEMS, POLYCOAT-AQUATIGHT
TILE UNDERLayment WATERPROOFING SYSTEM, AND
PSI FLEXIDeck™ P-TW CERAmIC TILE UNDERLayment
WATERPROOFING SYSTEM

POLYCOAT PRODUCTS
14722 SPRING AVENUE
SANTA FE SPRINGS, CALIFORNIA 90670

POLYTUFF SYSTEMS INTERNATIONAL
2250 EAST TROPICANA AVENUE
SUITE 19-600
LAS VEGAS, NEVADA 89119

1.0 SUBJECT

2.0 DESCRIPTION
2.1 General:
The Polycat and PSI walking deck systems described in Tables 1 and 2 of this report are Class A or Class B assemblies, in accordance with the 1997 Uniform Building Code™ (UBC), when installed in accordance with this evaluation report. Polycuat-Aquatight and PSI Flexidcck™ P-TW Tile Underlayment Systems are liquid-applied, waterproofing systems that cure to a monolithic, elastomeric membrane for use as underlayment for ceramic tile and shower pans.

2.2 Materials:

2.2.1 Primers:

2.2.1.1 PolyPrime 21 Primer: This is a two-component, 100-percent-solids, epoxy primer available in 3- and 15-gallon (11.3 and 56.8 L) kits. The A:B mixing ratio of the two components is 2:1 by volume, and shelf life of the components is one year from the date of manufacture when the components are stored at 75°F (24°C) in factory-sealed containers.

2.2.1.2 PolyPrime 2180 Primer: This is a two-component, solvent-based epoxy primer available in 2- and 10-gallon (7.8 and 37.8 L) kits. The A:B mixing ratio of the two components is 1:1 by volume, and the shelf life of the components is one year from the date of manufacture when the components are stored at 75°F (24°C) in factory-sealed containers.

2.2.1.3 PolyPrime U22 Primer: This is a two-component, solvent-free polyurethane primer available in 2- and 10-gallon (7.6 and 37.8 L) kits. The A:B mixing ratio of the two components is 1:1 by volume, and the shelf life of the components is one year from the date of manufacture when the components are stored at 75°F (24°C) in factory-sealed containers.

2.2.1.4 PolyPrime U25 Primer: This is a two-component, solvent-based polyurethane primer available in 2- and 10-gallon (7.6 and 37.8 L) kits. The A:B mixing ratio of the two components is 1:1 by volume, and the shelf life of the components is one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.1.5 Enviro-Grip® EP #1: This is a two-component, 100-percent-solids, epoxy primer available in 3- and 15-gallon (11.3 and 56.8 L) kits. The A:B mixing ratio of the two components is 2:1 by volume, and the shelf life of the components is one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.1.6 Enviro-Grip® EP #2: This is a two-component, solvent-based epoxy primer available in 2- and 10-gallon (7.6 and 37.8 L) kits. The A:B mixing ratio of the two components is 1:1 by volume, and the shelf life of the components is one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.1.7 Enviro-Grip® PU #3: This is a two-component, solvent-free polyurethane primer available in 2- and 10-gallon (7.6 and 37.8 L) kits. The A:B mixing ratio of the two components is 1:1 by volume, and the shelf life of the components is one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.1.8 Enviro-Grip® PU #4: This is a two-component, solvent-based polyurethane primer available in 2- and 10-gallon (7.6 and 37.8 L) kits. The A:B mixing ratio of the two components is 1:1 by volume, and the shelf life of the components is one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.2 Membranes:

2.2.2.1 PolyKarpet SL-660 Membrane: This is a single-component, solvent-free, water-curable, polyurethane elastomeric membrane. This membrane is mixed with water at a mixing ratio of 5 gallons (18.9 L) of membrane to 1.25 gallons (4.73 L) of water. PolyKarpet SL-660 Membrane

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mixed with water is referred to as PolyKarpel SL-660 mixture. It is available in 5-gallon (18.9 L) pails, and the shelf life of the components is six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.2.2 PolyCoat PC-440 Membrane: This is a single-component, polyurethane elastomeric membrane, available in 5-gallon (18.9 L) and 55-gallon (208.2 L) drums. It has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.2.3 PolyCoat PC-440 SF Membrane: This is a single-component, solvent-free, polyurethane elastomeric membrane, and is available in 5-gallon (18.9 L) pails. It has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.2.4 P-Tuff™ Base Membrane: This is a single-component, water-catalyzed, polyurethane elastomeric membrane. This membrane material is also used as a caulking material to fill cracks and joints in the substrate. It is available as a P-Tuff™ SLV Solvenated Base Membrane or solvent-free base membrane as P-Tuff™ Classic or P-Tuff™ Flex. P-Tuff™ Membrane is mixed with water at a mixing ratio of 2.5 gallons (9.5 L) of P-Tuff™ Membrane material to 2.5 quarts (2.4 L) of water to yield a material called Mixed Membrane Material (MMM). This P-Tuff™ Membrane product is available in 5-gallon (18.9 L) containers, and has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.3 Surface-protection Coatings:

2.2.3.1 PolyGlaze 400 FR: This is a two-part, moisture-cured, aliphatic polyester polyurethane coating. It is available in 5-gallon (22.7 L) kits. The powder-to-liquid mixing ratio is 1:5 by volume. Unmixed components have a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.3.2 PolyGlaze 400: This is a single-component, moisture-cured, aliphatic polyester polyurethane coating. It is available in 1- and 5-gallon (3.8 and 18.9 L) pails and has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.3.3 Polycoat-Staingard 1110: This is a two-component, liquid-applied, aliphatic polyester polyurethane coating. It is available in 1- and 5-gallon (3.8 and 18.9 L) kits and has a shelf life of one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.3.4 Poly-l-Gard® 246: This is a single-component, moisture-cured, urethane basecoat and surface-protection coating. It is available in 5-gallon (18.9 L) pails and 55-gallon (208.2 L) drums, and has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers. The Poly-l-Gard® 246 is used with an accelerator as described in Section 2.2.4.3.

2.2.3.5 Poly-l-Gard® 246 SF: This is a single-component, moisture-cured, solvent-free, urethane basecoat and surface protection coating. It is available in 5-gallon (18.9 L) pails and 55-gallon (208.2 L) drums, and has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers. The Poly-l-Gard® 246 SF is used with an accelerator as described in Section 2.2.4.3.

2.2.3.6 Topshield™ EST: This is a single-component, moisture-cured, aliphatic polyester polyurethane coating. It is available in 1- and 5-gallon (3.8 and 18.9 L) pails and has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.3.7 Topshield™ EST-FR: This is a two-part, moisture-cured, aliphatic polyester polyurethane coating. It is available in 5-gallon (22.7 L) kits. The powder-to-liquid mixing ratio is 1.5 by volume. Unmixed components have a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.4 Accelerators, Hardeners, and Catalysts:

2.2.4.1 PolyCoat PC-50 Thicker/Accelerator: This is a proprietary liquid catalyst used to accelerate and thicken the PC-440 and PC-440 FS elastomeric waterproofing membranes. Thickened PC-440 and PC-440 FS membranes may be used as a coating paste to fill cracks. PC-50 is available in 1-quarter (0.95 L) and 1-gallon (3.8 L) containers, and has a shelf life of six months from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers. The mixing ratio is 1 quart (0.95 L) of PC-50 to 5 gallons (18.9 L) of base membrane.

2.2.4.2 PolyCoat PolyGlaze Hardener: This is a liquid accelerator used in the PolyGlaze 400 FR, PolyGlaze 400, Poly-l-Gard® 246, and Poly-l-Gard® 246 SF surface-protection coatings. It is available in 1-quarter (0.95 L) and 1-gallon (3.8 L) containers, and has a shelf life of one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers. Maximum mixing ratio is 1 quart (0.95 L) of hardener to 5 gallons (18.9 L) of surface-protection coatings.

2.2.4.3 Poly-l-Gard® 246 Accelerator: This accelerator must be added at a rate of 6 ounces (0.24 L) per 5 gallons (18.9 L) of Poly-l-Gard® 246 and Poly-l-Gard® 246 SF. It has a shelf life of one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.4.4 Quick-N-Cure Catalyst: This is a proprietary, organometallic catalyst used in the PolyKarpel SL-660 base membrane. The mixing ratio is 1 to 3 vials (20 to 60 grams) of Quick-N-Cure to 5 gallons (18.9 L) of PolyKarpel SL-660 base membrane. It has a shelf life of one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.4.5 Topshield™ Accelerator: This is a liquid accelerator used in the Topshield™ EST and Topshield™ EST-FR surface-protection coatings. The maximum mixing ratio is 1 quart (0.95 L) of the accelerator to 5 gallons (18.9 L) of surface-protection coating. It is available in 1-quarter (0.95 L) and 1-gallon (3.8 L) containers and has a shelf life of one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.4.6 P-Tuff™ Catalyst: The P-Tuff™ Catalyst is a proprietary, organometallic catalyst used in the P-Tuff™ Base Membrane material. The maximum mixing ratio is 3 vials (60 grams) of catalyst to 5 gallons (18.9 L) of P-Tuff™ Base Membrane material. It has a shelf life of one year from the date of manufacture when stored at 75°F (24°C) in factory-sealed containers.

2.2.5 Fiberglass Straight Jacket Tape: This fiberglass tape is 4 inches (102 mm) wide by 150 feet (45.7 m) long per roll and is used as a reinforcement over joints and cracks in plywood.

2.2.6 Non-woven Polyester Tape: This non-woven tape is 3 inches (76 mm) wide by 300 feet (91.4 m) long per roll and is used as a reinforcement over joints and cracks in concrete.

2.2.7 Surface Texture:

2.2.7.1 Rounded Sand: This is washed, dry, rounded crystal silica sand, having a maximum 16 or 20 mesh size and a minimum hardness of 6.5 Moh, used for walking and parking decks.

2.2.7.2 Angular Sand: This is washed, dry, angular, cracked crystal silica sand, 16 mesh (0.0469 in, 1.19 mm)
with a minimum hardness of 6.5 Moh, used under ceramic tiles and shower pans.

2.2.7.3 Rubber Granules: These 14-30 mesh rubber granules are used with the PolyCoat and PSI assemblies.

2.3 Preparation of Substrate:
Concrete or plywood substrates shall be free of all contamination that may impair proper bonding. Substrates must be sloped a minimum of 0.5 inch (6.4 mm) per foot (305 mm) (2.1 percent) for drainage, and shall be primed with the applicable primer specified in Table 1 prior to application of the membrane and surface-protection materials. New plywood substrates do not require primer. P-Tuff™ Base Membrane and PolyKarpent SL-660 Membrane require primer.

The surface of concrete substrates must be clean, dry and free of standing water. All joints and cracks shall be caulked flush with substrate, and all high spots cut or ground off, to provide a smooth, even surface. Before the material is applied, the substrate is swept or blown clean to remove dust or foreign material. Paint, grease and oil shall be removed either by grinding or sandblasting, and new concrete surfaces shall be acid-etched. Large areas to be covered should have control joints at intervals not to exceed 20 feet (6096 mm) on center. Control joints are cut in the same manner as for standard concrete construction, and are then caulked.

Plywood shall be exterior-grade plywood, having either tongue-and-groove edges and ends blocked or all edges blocked, and having face grain perpendicular to supports. The plywood is a minimum of 0.25, 0.30, 0.5, or 0.75 inch (15.9, 15.1, 19.1, or 16.7 mm) thick, depending on the PolyCoat and PSI materials applied to the substrate. See Tables 1 and 2 for plywood thickness requirements. The plywood span and fastening to structural supports must comply with the UBC. The plywood surface must be clean, dry and free of all foreign materials such as paint, grease, oil and dust. Cracks in the plywood, and all panel butt joints, shall be sealed using a polyurethane caulking compound.

2.4 Installation of Flashing:
All door thresholds, jambs, posts, walls, scuppers and fascia shall have metal flashing in accordance with Section 1509 of the UBC.

2.5 Application of Systems:
Application of systems recognized in this report shall comply with the published installation instructions and this report.

2.5.1 Polycoat System: System details and application rate of products are shown in Table 1. For details on system installation, refer to Polycoat's Technical Data Sheets and System Details.

2.5.2 PSI System: System details and application rates of products are shown in Table 2. For details on system installation, refer to PSI Technical Data Sheets and System Details.

2.6 Method of Repair:
Damaged areas are permitted to be repaired by cutting or grinding out an area extending 6 inches (152 mm) beyond the damage; cleaning with a urethane-active solvent; and applying the primer, base membrane, and topcoats in the same manner as described in the published installation instructions and this report.

2.7 One-hour Fire-resistive Construction:
The Polydeck® 355, Polydeck® 400, Polydeck® 600, Polydeck® 610, Flexideck™ P-A and Flexideck™ P-B deck systems are permitted to be substituted for the double wood floor described in Table 7-C of the UBC when installed in accordance with this report over 0.5-inch-thick (19 mm), Exterior 1 plywood supported by minimum 2-by-10 joists spaced a maximum of 16 inches (406 mm) on center.

2.8 Identification:
Individual containers of each component bear a label indicating the name and address of the manufacturer, the product designation, the evaluation report number (ER-4799), shelf life information in the form of an expiration date, and the name of the inspection agency (Ramtech Laboratories, Inc.).

3.0 EVIDENCE SUBMITTED

3.1 Polycoat and Poytuff Walking Deck Systems:
Data in accordance with the Acceptance Criteria for Walking Decks (AC39), dated March 2000; and a quality control manual.

3.2 Polycoat-Aquatight and PSI Flexideck™ P-TW Ceramic Tile Underlayment Waterproofing Systems:
Data in accordance with the ICC-ES Acceptance Criteria for Waterproof Membranes Used as Ceramic Tile Underlayment (AC116), dated July 1996; and installation instructions.

4.0 FINDINGS
That the Polycoat and PSI Walking Deck Systems, Polycoat-Aquatight Tile Underlayment Waterproofing System, and PSI Flexideck™ P-TW Ceramic Tile Underlayment Waterproofing System described in this report comply with the 1997 Uniform Building Code™, subject to the following conditions:

4.1 The systems are installed in accordance with this report and the manufacturer's instructions.

4.2 The products are manufactured in Santa Fe Springs, California, under a quality control program with inspections by Ramtech Laboratories, Inc. (AA-655).

This report is subject to re-examination in two years.
## APPLICATION TABLE 1—POLYCOAT SYSTEMS

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>SYSTEM</th>
<th>Treatment of Joints/Cracks in Substrate</th>
<th>COMPONENTS</th>
<th>ROOF CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primer</td>
<td>Surfacing Material</td>
</tr>
<tr>
<td>1.1</td>
<td>Polydeck 400</td>
<td>PC-440 or PC-449 SF combined with PC-50 as caving paste and Straight Jacket tape for reinforcement</td>
<td>Polynime 21, 2190, U22, or U29 1 gal. (mixture of Side A &amp; Side B) per 300 sq. ft. Minimum Dry Mil: 3</td>
<td>First Coat: PC-449 or PC-449 SF 3 gal. per 100 sq. ft. Minimum Dry Mil: 33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Base Membrane</td>
<td>Same as Item 1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Surfacting Material</td>
<td>First Coat: Polyglaze 400 FR 1% gal. per 100 sq. ft. Minimum Dry Mil: 13</td>
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<td>1.2</td>
<td>Polydeck 410</td>
<td>Same as Item 1.1</td>
<td>Same as Item 1.1</td>
<td>Same as Item 1.1</td>
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<td>1.3</td>
<td>Polydeck 355</td>
<td>Same as Item 1.1</td>
<td>Same as Item 1.1</td>
<td>Same as Item 1.1</td>
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<td>1.4</td>
<td>Polydeck 365</td>
<td>Same as Item 1.1</td>
<td>Same as Item 1.1</td>
<td>Same as Item 1.1</td>
</tr>
<tr>
<td>1.5</td>
<td>PolyKarpel 600</td>
<td>PolyKarpel SL-650 Mixture as a caving paste and Straight Jacket tape for reinforcement</td>
<td>Same as Item 1.1</td>
<td>First Coat: PolyKarpel SL-660 1 gal. per 100 sq. ft. Minimum Dry Mil: 39</td>
</tr>
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<td>1.6</td>
<td>PolyKarpel 510</td>
<td>Same as Item 1.5</td>
<td>Same as Item 1.5</td>
<td>First Coat: PolyKarpel SL-660 1 gal. per 100 sq. ft. Minimum Dry Mil: 48</td>
</tr>
<tr>
<td>1.7</td>
<td>Poly-1-Gard 246</td>
<td>Same as Item 1.1</td>
<td>Polynime 21 or Polytime U22 1 gal. (mixture of Side A &amp; Side B) per 300 sq. ft. Minimum Dry Mil: 3</td>
<td>First Coat: Poly-1-Gard 246 1 gal. per 100 sq. ft. Minimum Dry Mil: 14</td>
</tr>
<tr>
<td>1.8</td>
<td>Poly-1-Gard 248 SF</td>
<td>Same as Item 1.1</td>
<td>Polynime 21 or Polytime U22 1 gal. (mixture of Side A &amp; Side B) per 300 sq. ft. Minimum Dry Mil: 3</td>
<td>First Coat: Poly-1-Gard 248 SF 1 gal. per 100 sq. ft. Minimum Dry Mil: 16</td>
</tr>
<tr>
<td>1.9</td>
<td>Polycoast-Aqualight</td>
<td>Same as Item 1.1</td>
<td>Polyime 21 or Polytime U22 1 gal. (mixture of Side A &amp; Side B) per 300 sq. ft. Minimum Dry Mil: 3</td>
<td>First Coat: Poly-440 SF 3 gal. per 100 sq. ft. Minimum Dry Mil: 48</td>
</tr>
</tbody>
</table>

For St: 1 gallon = 3.8 L, 1 sq. ft. = 0.093 sq. meters, 1 lb. = 4.45 N, 1 inch = 25.4 mm.