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Legacy report on the 1997 *Uniform Building Code*™

DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07180—Traffic Coatings

VERSA-DECK PLUS WALKING DECK AND ROOF DECK SYSTEM

VERSATILE DECK COATINGS, INC.
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1.0 SUBJECT

Versa-Deck Plus Walking Deck and Roof Deck System.

2.0 DESCRIPTION

2.1 General:

Versa-Deck Plus is a cementitious walking deck and roof covering system for use over plywood or concrete substrates. The system consists of expanded metal lath with cement mortar (when installed over plywood), fiberglass mat with laminating resin, a textured acrylic basecoat and an acrylic topcoat. The shelf life of the components is 18 months when the components are stored at temperatures between 55°F and 90°F (12.8°C and 32.2°C). When installed in accordance with this report, at a maximum slope of $\frac{1}{4}$ inch per foot (2% slope), the system has a Class A roof classification when tested in accordance with UBC Standard 15-2 (ASTM E 108). See Section 2.8 for one-hour fire-resistive construction.

2.2 Materials:

2.2.1 Substrates:

2.2.1.1 Plywood: Exterior-grade, $\frac{5}{8}$ -inch-thick (15.9 mm) plywood complying with UBC Standard 23-2 or 23-3.

2.2.1.2 Concrete: Concrete decks must comply with the 1997 *Uniform Building Code*™ (UBC), and must have a minimum compressive strength of 2,000 psi (13.8 MPa).

2.2.2 Metal Lath: The metal lath must be a minimum 1.75 pound-per-square-yard (0.94 kg/m²), galvanized, expanded metal lath.

2.2.3 Versa-Deck Plus Metal Lath Cement: Versa-Deck Plus Metal Lath Cement is a dry blend of polymer, fiberglass, high-strength cements, fine aggregates and additives, packaged in 50-pound (22.7 kg) bags.

2.2.4 Fiberglass Mat: The fiberglass mat is a 0.75-ounce-per-square-foot (228 g/m²) chopped strand fiberglass mat.

2.2.5 Versa-Deck Plus Laminating Resin: The Versa-Deck Plus Laminating Resin is a liquid-applied, flexible, acrylic

adhesive membrane packaged in 1- and 5-gallon (3.8 and 18.9 L) containers.

2.2.6 Versa-Deck Plus Textured Base Coat: The Versa-Deck Plus Textured Base Coat is a 100 percent acrylic coating formulated for spray, trowel, or roller applications to provide a textured deck surface. It is packaged in 1- and 5-gallon (3.8 and 18.9 L) containers.

2.2.7 Versa-Deck Plus Finish Resin: The Versa-Deck Plus Finish Resin is a specially formulated 100 percent acrylic resin sealer top coat intended for spray or roller application. It is packaged in 1- and 5-gallon (3.8 and 18.9 L) containers.

2.2.8 Metal Flashing: Metal flashing must be a minimum of 0.019-inch (0.48 mm) (No. 26 gage), corrosion-resistant metal. Metal surfaces must have sufficient rigidity to avoid excessive deflection and ponding, or must be solidly backed by a rigid substrate.

2.3 Preparation of Substrates:

2.3.1 General: The surface to be coated must be structurally sound, sloped for proper drainage, and free of dirt, dust, oil, grease, or other contaminants that may impair bonding.

2.3.2 Plywood: Plywood substrate must be supported by framing with a maximum spacing of 16 inches (406 mm) on center, with all edges blocked. The plywood must be attached to framing members in accordance with the UBC.

2.3.3 Concrete: Concrete surfaces must have a smooth, uniform surface that is free of depressions and ridges. All holes, cracks and joints must be cleaned and filled with metal lath cement.

2.4 Installation over Plywood:

2.4.1 General: The Versa-Deck Plus walking deck must be applied in strict accordance with the manufacturer's instructions and this report. Installation must be when the weather is dry and the ambient temperature is between 60°F (15.6°C) and 95°F (35°C). All slider and door thresholds, jambs, posts, walls, scuppers and fascia must have metal flashing in accordance with UBC Section 1509 and the manufacturer's instructions.

2.4.2 Metal Lath: The metal lath is to be laid out in a staggered pattern over the entire surface being coated. The seams must be butted, not overlapped. Joints in the lath that are parallel to the joints in the plywood must not occur within 2 inches (50.8 mm) of the plywood joints. The lath must be attached to plywood substrates with corrosion-resistant, minimum No. 16 gage staples with a minimum 1-inch (25.4 mm) crown and $\frac{5}{8}$ -inch-long (15.9 mm) legs. A minimum of



16 staples per square foot must be used for the field of the lath, and the edges must be stapled at 1-inch (25.4 mm) intervals. Where the lath abuts another piece of lath, the staples must be spaced at 1 inch (25.4 mm) such that the staple goes through both adjoining pieces of lath.

2.4.3 Versa-Deck Plus Metal Lath Cement: Add approximately 3 to 4 quarts (2.8 to 3.8 L) of water per 50-pound (22.7 kg) bag, mixing with a heavy-duty drill with a paddle blade, a bucket mixer, or a portable cement mixer. Metal lath cement is to be mixed for a minimum of two minutes. Normal working time is approximately 15 minutes. The metal lath cement is poured directly over the metal lath. Starting at an outside edge, trowel the material into the metal lath using the metal lath as a screed. The metal lath must be completely covered by the metal lath cement to a minimum thickness of $\frac{3}{16}$ inch (4.8 mm). Coverage is 33 square feet (3.06 m²) per 50-pound (22.7 kg) bag. The metal lath cement must dry for a minimum of two hours before the installer proceeds to the next step.

2.4.4 Fiberglass Mat and Versa-Deck Plus Laminating Resin: The fiberglass mat is laid with butted seams over the dry metal lath cement. The installer must make sure the mat is extended 1 to 2 inches (25.4 to 50.8 mm) up walls and to all perimeter flashings. Laminating resin is poured over the fiberglass mat and spread over the mat with a brush and roller at a rate of 1 gallon (3.8 L) per 50 square feet (4.6 m²), until the mat is completely saturated. The material is to be allowed to dry before the installer proceeds to the next step.

2.4.5 Versa-Deck Plus Texture Base Coat: The texture base coat is applied over the fiberglass and laminating resin using a trowel, roller or hopper gun at a rate of 1.33 gallons (3.8 L) per 75 square feet (7.0 m²). The material must be dry before the installer proceeds to the next step.

2.4.6 Versa-Deck Plus Finish Resin: The finish resin is applied with a roller and brush at a rate of up to 1 gallon (3.8 L) per 110 square feet (10.2 m²). The finished product must dry for a minimum of four hours before foot traffic is permitted.

2.5 Installation over Concrete:

Installation is as described in Sections 2.4.1 and 2.4.4 through 2.4.6 of this report.

2.6 Method of Repair:

The damaged area must be removed, and replaced in accordance with Section 2.4 of this report. When substrate damage occurs, the retention of the fire-resistive and strength properties of the system must be investigated.

2.7 Roof Classification:

The Versa-Deck Plus system has a Class A roof classification when applied as described in Section 2.4 or 2.5 of this report, at a slope of $\frac{1}{4}$:12 (2% slope).

2.8 One-hour Fire-resistive Construction:

The Versa-Deck Plus system, when installed in accordance with Section 2.4 of this report over minimum nominal $\frac{5}{8}$ -inch-thick (15.9 mm), exterior-grade plywood, with minimum nominal 2-by-8 joists spaced at 16 inches (406 mm) on center, and all plywood joints blocked, may be substituted for the double wood floor described in Table 7-C of the UBC. When installation is over 2-by-8 joists, the design bending stress assigned to the joists is limited to 78 percent of the UBC-prescribed design values.

2.9 Identification:

Each container has a label bearing the manufacturer's name (Versatile Deck Coatings, Inc.) and address, product name, batch number, ICBO ES evaluation report number (ER-6036) and the name of the inspection agency (Ramtech Laboratories, Inc.).

3.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Interim Criteria for Walking Decks (AC309), dated March 2000, and a quality control manual.

4.0 FINDINGS

That the Versa-Deck Plus walking and roof deck system described in this report complies with the 1997 *Uniform Building Code*[™], subject to the following conditions:

- 4.1 The system is installed in accordance with this report and the manufacturer's instructions, by applicators approved by Versatile Deck Coatings, Inc.**
- 4.2 When installation is over nominal 2-by-8 joists of fire-resistive construction, in accordance with Section 2.7, the design bending stress assigned to the joists must be limited to 78 percent of the code-prescribed design values.**
- 4.3 The products are manufactured at the Versatile Deck Coatings, Inc., facility in Signal Hill, California, under a quality control program with inspections by Ramtech Laboratories, Inc. (AA-655).**

This report is subject to re-examination in two years.