

## ICC-ES Evaluation Report

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DIVISION: 07 00 00—THERMAL AND MOISTURE  
PROTECTION

Section: 07 18 13—Pedestrian Traffic Coatings

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## EVALUATION SUBJECT:

DEX-O-TEX WEATHERWEAR ROOF DECK COVERING

## 1.0 EVALUATION SCOPE

## Compliance with the following codes:

- 2009 *International Building Code*® (2009 IBC)
- 2009 *International Residential Code*® (2009 IRC)
- 2006 *International Building Code*® (2006 IBC)
- 2006 *International Residential Code*® (2006 IRC)
- 1997 *Uniform Building Code*™ (UBC)

## Properties evaluated:

- Durability
- Wind resistance
- Fire classification
- Fire resistance

## 2.0 USES

Dex-O-Tex Weatherwear Roof Deck Covering is a walking deck and Class A roof system for use over plywood, steel or concrete decks. The system is also used as a component of a one-hour fire-resistance-rated roof assembly.

## 3.0 DESCRIPTION

Dex-O-Tex Weatherwear roof deck covering is a multilayered, trowel-applied, waterproof roof coating that is subjected only to normal foot traffic. The system consists of a series of troweled coatings that form, successively, an elastic latex membrane, an integral composition flashing, and a flexible rubber cement traffic surface, made of Resistite paste, Resistite powder, Neobond II membrane liquid, N-38 paste, and Standard Neotex powder. A base sheet separates the Dex-O-Tex application from the

surface it covers, permitting it to “float” over normal building cracks and movement. Dex-O-Tex Weatherwear components are all combinations of liquid rubber latex polymers incorporating dehydrating powders, vulcanizers, and special aggregates. The total thickness of the material is  $\frac{3}{16}$  inch to  $\frac{1}{4}$  inch (4.8 mm to 6.4 mm).

## 4.0 INSTALLATION

## 4.1 General:

Installation of the Dex-O-Tex Weatherwear must be in accordance with the manufacturer’s published installation instructions, the applicable code and this report. The manufacturer’s installation instructions must be available on the jobsite during application. Liquid components have a shelf life of one year and must be stored at temperatures above 32°F (0°C). The system must be installed only when the ambient temperature is above 32°F (0°C). Materials must not be applied if precipitation is occurring or expected.

## 4.2 Preparation of Substrates:

Structurally sound, clean, dry substrates listed above must be prepared, as described below, prior to the application of the finish material.

**4.2.1 Structural Concrete:** The surfaces must be clean and free of standing water. All holes, joints and cracks must be pointed flush with portland cement mortar, and all high spots cut or ground off to provide a smooth, even surface. Before the material is applied, the substrate must be carefully swept, or blown clean by high-pressure air to remove all dust or foreign material. Special care must be taken in the preparation and cleaning of all corners and edges. Foreign materials such as paint, grease and oil must be removed by either grinding or sandblasting, with new concrete surfaces acid-etched. Large areas to be covered are required to have control joints at maximum intervals not to exceed 20 feet (6096 mm) on center, with the control joint system worked out to meet all known deck stress–concentration points. The control joints must be cut in the same manner as for standard concrete construction, and then caulked.

**4.2.2 Plywood Base Material:** Plywood substrates must be minimum  $\frac{5}{8}$ -inch-thick (15.9 mm) exterior-grade plywood, having a maximum span of 16 inches (406 mm), and with tongue-and-groove edges and ends blocked or all edges blocked, and face grain perpendicular to supports. The plywood must be supported along all edges, and adequately fastened to all bearings by means of countersunk wood screws, or screw nails equivalent to 8d ring shank nails spaced at 6 inches (152 mm) on center, or as otherwise required by the applicable code. The nails

must have a minimum penetration into the beams or joists supporting the plywood as required by the applicable code. 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 are to be sealed using a caulking compound.

**4.2.3 Steel:** Steel surfaces, having sufficient rigidity to avoid excessive deflections or being solidly backed by a rigid substrate, must be cleaned of all dust, grease, oil, silicone, loose paint, etc. The surface must be sufficiently roughened to assure a good bond by sanding, grinding, etc., and the resultant dust must be carefully removed.

#### 4.3 Class A Roof Covering over Plywood Deck:

- a. The plywood is described and installed as set forth in Section 4.2.2, at a maximum slope of  $\frac{1}{4}$ :12 (2.1%). Plywood panel joints must be filled with joint compound consisting of one part Resistite paste to three parts Resistite powder, mixed by weight. Total minimum thickness is  $\frac{9}{32}$  inch (7.1 mm).
- b. One layer of Type IV, asphalt-coated, fiberglass base sheet complying with ASTM D 2178 must be applied to the plywood. The sheets must be nominally 36 inches (919 mm) wide by 56 yards (51.2 m) long and must weigh a minimum of 10.5 pounds per 100 square feet ( $0.5 \text{ kg/m}^2$ ). The base sheet must terminate 2 inches (51 mm) from the perimeter, protrusions and other flashing areas, and must be lapped 2 inches (51 mm) at joints.
- c. Metal flashing must not be less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant steel and must be degreased before installation. The base sheet must lap over the horizontal flange of installed vents.
- d. A mixture of one part Resistite paste and 2.25 parts Resistite powder, by weight, must be applied to all exposed surfaces and extend 4 inches (102 mm) onto the adjacent base sheet. Coverage must be a minimum of 19 pounds per 100 square feet ( $0.9 \text{ kg/m}^2$ ).
- e. Perimeter and flashing areas must receive a coating of Neobond II membrane liquid at a minimum rate of 30 pounds per 100 square feet ( $1.5 \text{ kg/m}^2$ ). Loose-woven jute fabric, nominally 0.035 inch (0.9 mm) thick and weighing 7 ounces per square yard ( $237 \text{ g/m}^2$ ), must be embedded into the wet Neobond II. The combined thickness of Neobond II and fabric must be approximately 0.07 inch (1.8 mm). Each coating must be dry (this normally requires 12 to 16 hours) before recoating.
- f. Flat (field) areas must receive a coat of Neobond II membrane liquid at a rate of 21 pounds per square foot ( $1 \text{ kg/m}^2$ ). Random strands of fiberglass mat, weighing  $\frac{1}{4}$  ounce per square foot ( $76 \text{ g/m}^2$ ), must be embedded into the wet Neobond II. The combined thickness of Neobond II and fiberglass must be approximately 0.050 inch (1.3 mm). Each coating must be dry (this normally requires 12 to 16 hours) before recoating.
- g. An additional coat of Neobond II is applied, to fill voids in the jute and fiberglass fabrics, at the rate, respectively, of 6 pounds and 5 pounds per square foot ( $29 \text{ kg/m}^2$  and  $24 \text{ kg/m}^2$ ). Thickness of the membrane system must be 0.085 inch (2.1 mm) at perimeter and flashing areas and 0.062 inch (1.6 mm) in the field area. About six hours are needed for cure.
- h. A mixture of one part N-38 paste and five parts Standard Neotex powder, by weight, must cover the

surface at a rate of 80 pounds per 100 square feet ( $3.9 \text{ kg/m}^2$ ). The approximate dry thickness must be 0.090 inch (2.3 mm). After curing for a minimum of 12 hours, a second application at a rate of 52 pounds per 100 square feet ( $2.5 \text{ kg/m}^2$ ) yields a dry thickness of 0.060 inch (1.5 mm). The total application is 132 pounds per 100 square feet ( $6.4 \text{ kg/m}^2$ ), for a total dry thickness of 0.150 inch (3.8 mm).

- i. After the Standard Neotex has cured for a minimum of 12 hours, a topping mixture of one part Resistite paste and 2.75 parts Resistite powder, by weight, must be troweled on at a rate of 18.5 pounds per 100 square feet ( $0.9 \text{ kg/m}^2$ ), yielding a minimum dry thickness of 0.016 inch (0.4 mm). After curing to a dry state for a minimum of three hours, another topping is applied using one part Resistite paste to 2.1 parts Resistite powder, at a rate of 12 pounds per 100 square feet ( $0.6 \text{ kg/m}^2$ ), yielding a minimum dry thickness of 0.010 inch (0.25 mm). Total topping application must yield a minimum dry thickness of 0.028 inch (0.71 mm).
- j. After the topping application has cured to a dry state for a minimum of three hours, two coats of AJ-44 dressing must be roller-applied, at a rate of 150 square feet per gallon ( $3.7 \text{ m}^2/\text{L}$ ), yielding a minimum dry thickness of 0.005 inch (0.13 mm). The first coat must be cured dry (this normally requires two to four hours) before application of the second coat. Total thickness of Items e through j of Section 4.3, excluding base sheet and perimeter/flashing bond coating, must be a minimum 0.245 inch (6.2 mm) at flat areas and 0.268 inch (6.8 mm) at perimeter areas.

#### 4.4 Class A Roof Covering over Concrete and Steel Decks:

The roof deck must be concrete or steel prepared as noted in Section 4.2 of this report, with a minimum slope of  $\frac{1}{2}$ :12 (4%). For concrete substrates, the base sheet must be bonded to metal flashing at the perimeter. For steel decks, the base sheet is optional. If a base sheet is used on steel decks, it must be bonded directly to the steel deck at the perimeter or installed with a metal flashing as for the concrete surface. The roof covering must be installed in accordance with items b through j of Section 4.3, above.

#### 4.5 One-hour Fire-resistance-rated Construction:

The Dex-O-Tex Weatherwear Roof Deck covering installed as described in this report over  $\frac{5}{8}$ -inch-thick (15.9 mm) exterior-grade plywood with 2-inch-by-8-inch (51 mm by 203 mm) joists spaced 16 inches (406 mm) on center, with all plywood joints blocked, may be substituted for the double wood floor described in Footnote 13 of Table 7-C of the UBC and Table 720.1(3) footnote m of the IBC. When installation is over nominally 2-by-8 joists, the design bending stress assigned to the joists must be limited to 78 percent of the code-prescribed design values.

#### 5.0 CONDITIONS OF USE

The Dex-O-Tex Weatherwear Roof Deck Covering described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Materials must be manufactured and applied in accordance with this report and the manufacturer's instructions. In the event of conflict between this report and the manufacturer's installation instructions, this report must govern.
- 5.2 Applications must be by applicators authorized by Crossfield Products.

- 5.3 Fire classification must be as described in Sections 4.3 and 4.4.
- 5.4 Installation must be limited to buildings a maximum of 90 feet (27.4 m) above grade, in areas with a maximum 3-second-gust basic wind speed of 100 miles per hour (44 m/s) [fastest-mile basic wind speed of 80 miles per hour (129 km/h)], Exposure B.
- 5.5 Materials are manufactured by Crossfield Products Corporation, in Rancho Dominguez, California, under a quality control program with inspections by RI Ogawa & Associates, Inc. (AA-705).

#### 6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Walking Decks (AC308), dated February 2010.

- 6.2 Reports of reduced-scale fire-resistive-rated assembly tests.

#### 7.0 IDENTIFICATION

All containers, except for those of the fiberglass base sheet and loose woven jute fabric, are identified with the report holder's name and the manufacturing address, the product name, the date of manufacture, the shelf life and the lot number or production number. In addition to the above, the materials listed in this report are identified with the ICC-ES report number (ESR-1757) and the name of the inspection agency (RI Ogawa & Associates, Inc., AA-705).