DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 18 13—Pedestrian Traffic Coatings

REPORT HOLDER:
LONSEAL, INC.

EVALUATION SUBJECT:
LONDECK WALKING DECK SYSTEM

1.0 EVALUATION SCOPE

Compliance with the following codes:
- 2012, 2009 and 2006 International Residential Code® (IRC)

Properties evaluated:
- Durability
- Wind resistance

2.0 USES

The Londeck Walking Deck System is for use directly over concrete and plywood substrates as described in Section 3.2.4.

3.0 DESCRIPTION

3.1 General:

The Londeck system consists of a membrane, cementitious underlayment and deck adhesive.

3.2 Materials:

3.2.1 Membrane: Londeck is a calendared polyvinyl chloride (PVC) membrane. The membrane is nominally 0.080 inch thick [80 mils (2.0 mm)] and is available in rolls 72 or 96 inches (183 or 244 cm) wide by 60 feet (18.3 m) long.

3.2.2 Adhesives:

3.2.2.1 Lonseal #180 DeckHold: A water-based latex adhesive supplied in 4 gallon (15.1 L) containers having a shelf life of one year when unopened and stored at temperatures between 65°F and 85°F (18°C and 29°C).

3.2.2.2 Lonseal #650: A two-component, solvent-free epoxy adhesive supplied in a 1 gallon (3.8 L) container having a shelf life of one year when unopened and stored at temperatures between 65°F and 85°F (18°C and 29°C).

3.2.2.3 Lonseal #400: A solvent-based contact adhesive supplied in a 1 gallon (3.8 L) container having a shelf life of six months when unopened and stored at temperatures between 65°F and 85°F (18°C and 29°C).

3.2.3 Cementitious Underlayment:

3.2.3.1 MAPEI Mapecem® Quickpatch: A fast-setting, cementitious material used for the patching of exterior surfaces.

3.2.3.2 MAPEI Primer TM: A water-based acrylic primer intended to promote adhesion of Mapecem® Quickpatch.

3.2.3.3 MAPEI ECO Prim Grip™: A synthetic resin-based primer with a silica aggregate intended to promote adhesion of Mapecem® Quickpatch.

3.2.4 Substrates: The substrate over which the walking deck system is applied must be one of the following:

3.2.4.1 Plywood: Minimum 3/4-inch-thick (19.1 mm) exterior underlayment grade complying with the most current U.S. Department of Commerce Product Standard PS-1 and having tongue-and-groove edges or be supported by blocking.

3.2.4.2 Concrete: Substrates must comply with the requirements of the applicable code and must have a minimum compressive strength of 3500 psi (24 132 kPa).

4.0 INSTALLATION

4.1 General:

Installation of the Londeck Walking Deck System 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. Installation is limited to conditions when the weather is dry and both the ambient air and substrate temperatures are between 65°F and 85°F (19°C and 29°C) for 48 hours before application, during application and for 48 hours after application. Materials must not be applied if precipitation is occurring or expected.

4.2 Preparation of Substrates:

4.2.1 Substrate: The substrate shall be sloped a minimum of 1/16 inch per foot (0.5 percent slope) for positive drainage of water away from the structure.

4.2.2 Plywood: Plywood must be applied to framing in accordance with the requirements of the applicable code. All unsupported edges must be blocked. All penetrations through and terminations of the sheathing must be protected with flashing in accordance with the requirements of the applicable code and the manufacturer’s published installation instructions.
4.2.3 **Concrete**: Concrete surfaces must be dry, clean smooth and structurally sound. All contaminants, including, but not limited to, dust, solvent, wax, oil, grease, residual adhesive, adhesive removers, curing compounds, alkaline salts, carbonation, mold, mildew and other foreign materials must be removed by mechanical means only. Surfaces must be sufficiently prepared to provide a smooth, even surface. See the manufacturer’s published installation instructions for further guidance on application over concrete.

4.3 **Underlayment Installation**:

4.3.1 **Primer**:

Either MAPEI Primer T™ or MAPEI ECO Prim Grip™ may be used depending on the site conditions and requirements. When a primer is required, the primer must installed in accordance with MAPEI’s installation instructions.

4.3.2 **Underlayment**:

MAPEI Mapecem® Quickpatch must be installed in accordance with MAPEI’s installation instructions. The product may be installed from a featheredge to 3 inches (7.5 cm) thick, but should be thick enough to provide a smooth surface for the membrane, while maintaining the required minimum slope away from the structure.

4.4 **Membrane Installation**:

Once the Mapecem® Quickpatch has cured, a 6-inch band of #650 adhesive must be installed around the perimeter edge of the system, including the flashing. The #650 must be installed at a rate of 170 to 225 square feet per gallon (4.2 to 5.5 m²/L) using a 1/16-inch x 1/32-inch x 1/32-inch U-notch trowel. In the field of the installation, spread the #180 adhesive using a 3/8-inch nap roller to the substrate only, at a rate of 140 to 180 square feet per gallon (3.4 to 4.4 m²/L), stopping 6 inches from the edge where the two adhesives meet. For all vertical placements, the #400 adhesive must be applied using a 3/8-inch nap roller to both the substrate and the back of the membrane, at a rate of 150 to 200 square feet per gallon (3.7 to 4.9 m²/L).

The adhesives must not be allowed to dry prior to the installation of the membrane. Place the membrane into the wet adhesive, making sure to remove all wrinkles, and ensure positive contact with the substrate. While the #180 and #650 are wet-set adhesives, the #400 does have a required open time that must be followed in accordance with the manufacturer’s published installation instructions. Installation must ensure full adhesive transfer from the substrate to the back of the membrane, by using a minimum 75 pound (34.0 kg), three-section roller, rolling in both directions. See the manufacturer’s installation instructions for further guidance on the application of each adhesive.

Membrane seams must be overlapped a minimum of 1 1/2 inches (3.8 cm) at edges and ends. Seams must be overlap welded using a heat gun, wide slot nozzle, and silicone roller in accordance with the manufacturer’s installation instructions.

All posts, trim strips, and exposed edges of the membrane must be sealed with an exterior rated, non-silicone sealant following the manufacturer’s installation instructions.

4.5 **Method of Repair**:

The damaged area must be clean and dry, and all existing damaged membrane removed. Preparation of the substrate and installation of the underlayment must be in accordance with Section 4.2 and 4.3. The membrane must be replaced in the same manner as described in Section 4.4. When substrate damage occurs, the retention of the strength properties of the system must be investigated to the satisfaction of the code official.

4.6 **Wind Resistance**:

The deck construction over which the fully bonded walking deck system is installed must be designed to resist the minimum design wind pressures set forth in the applicable code.

5.0 **CONDITIONS OF USE**

The Londeck walking deck system 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 Installation must comply with this report, the manufacturer’s published installation instructions and the applicable code. If there is a conflict between the installation instructions and this report, this report governs.

5.2 The deck on which the walking deck system is installed must be designed to resist the design wind pressures of the applicable code.

5.3 Use of the system in roofing applications is outside the scope of this report.

6.0 **EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Walking Decks (AC39), dated October 2013.

7.0 **IDENTIFICATION**

Each roll of membrane is identified with the Lonseal, Inc., name and address, the evaluation report number (ESR-2091) and a permanent serialized label. The adhesives are identified with the Lonseal, Inc., name and address, the product designation, batch number keyed to the date of manufacture, and the product expiration date.

7.1 The report holder’s contact information is the following:

**LONSEAL, INC.**

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