SECTION 09305

DURADEK TILEDEK ROOF AND WALKING DECK MEMBRANE

TILE UNDERLAYMENT AND WATERPROOFING

Display hidden notes to specifier. (Don't know how? Click Here)

**** NOTE TO SPECIFIER ** Duradek; Tile Underlayment and Waterproofing.**

This section is based on the products of Duradek, which is located at:

Duradek U.S. Inc.:
1722 Iron Street.
North Kansas City, MO 64116.
Toll Free: 800-338-3568.
Phone: 816-421-5830
Fax: 816 421-2924
Email: duradekus@duradek.com
Web: www.duradek.com.

Duradek Canada Ltd.:
8288 129th Street.
Surrey, BC V3W 0A6 Canada.
Toll Free: 866-591-5594.
Phone: 604-591-5594
Fax: 604 591-3100.
Email: duradek@duradek.com.
Web: www.duradek.com.

[Click Here] for additional information.

There is nothing like the look of tile or slate on that outdoor deck. But the beauty is soon forgotten when water pours into your home, seemingly through the tile. And then you discover that all the attention on the job was towards the tile with little thought given to proper waterproofing. Rot repair is intrusive and expensive, not to mention the cost of replacing the tile.

This is a common story. There seems to be a lack of understanding within the building community about the proper waterproofing of decks, balconies and roof decks that are overlaid with porcelain tile, slate or some of the other natural stone finishes. That's where Duradek fits into the picture.

Duradek has been waterproofing roof decks since 1974 with PVC sheet membranes that are meant to be walked on. We sell our product only one way – professionally installed by contractors who have completed a training course and who specialize in flat surface waterproofing. Many of those decks have been covered with tile over the years. So it is not much of a stretch for us to redesign our regular Duradek Ultra membrane to come up with an anti-fracture, roofing membrane capable of having tile applied over top – Duradek Tiledek!

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Underlayment and waterproof membrane for tile applications.

1.2 RELATED SECTIONS

A. Section 06160 – Sheathing.

B. Section 09300 – Tile.

C. Section 07540 – Thermoplastic Membrane Roofing.

1.3 REFERENCES

A. CGSB 37.54-95 - Roofing and Waterproofing Membrane, Sheet Applied, Flexible, Polyvinyl Chloride; Canadian General Standards Board.

B. CGSB 37-GP-55M - Application of Sheet Applied Flexible Polyvinyl Chloride Roofing Membrane; Canadian General Standards Board.

C. ICC-ES AC39 – Acceptance Criteria for Walking Decks compliance

D. ICC-ES AC75 – Acceptance Criteria for Membrane Roof Covering Systems compliance

E. ASTM E108-08 & CAN/ULC S107-03 – Methods of Fire Tests of Roof Coverings compliance

F. ASTM C627 – Assembly Components Installation Systems

G. ANSI A118.10 – ANSI Specification for Load Bearing, Bonded Waterproof Membranes

H. Independent Quality Control

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Manufacturer's specifications, including data substantiating compliance with physical properties specified.

C. Shop Drawings: Installation and seaming plan, showing joints, termination details, and interface with other materials.

D. Samples: Two 8 1/2 inch by 11 inch (210 by 250 mm) pieces; labeled.

E. Manufacturer's printed installation instructions and recommendations, including precautions required for seaming and adhering membrane.

F. Installer's Qualifications.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in providing products of the type specified in this section, with minimum of 15 years of waterproofing experience.

B. Installer Qualifications:
   1. Specialized in roof and balcony waterproofing.
   2. Trained and currently authorized by manufacturer.

C. Pre-installation Meeting: Discuss waterproofing practices and precautions applicable to this project.
   1. Convene minimum of 7 days prior to start of installation.
   2. Require the attendance of:
      a. Manufacturer's representative.
      b. Contractor's field superintendent.
      c. Installation foreman.
      d. Other trades affected by this work.
      e. Owner's representative.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact.
   1. Label uncured materials, both sheets and canned goods, with date of manufacturer and shelf life.
   2. Do not use creased or damaged sheets.
   3. Do not use products after end of shelf life.

B. Store and handle materials to prevent damage.
   1. Place materials on pallets.
   2. Prevent creasing of rolled materials.
   3. Keep containers closed, except when removing materials from them.

C. Keep materials at temperature between 40 degrees F (4.4 degrees C) and 80 degrees F (26.6 degrees C); if adhesives are exposed to lower temperature, verify useability with manufacturer before using.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

A. Provide manufacturer's 10 year warranty for membrane leaks due to a manufacturing defect, covering materials and/or repair and replacement labor.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Provide products of Duradek/Durarail U.S. Inc., 1722 Iron Street, North Kansas City, MO 64116 USA Toll Free Tel: 800-338-3568. Tel: (816) 421-5830. Fax: (816) 421-2924.

B. Manufacturer: Provide products of Duradek/Durarail Canada Ltd., 8288 129th Street, Surrey, BC V3W 0A6 Canada. Toll Free Tel: 866-591-5594. Tel: (604) 591-5594. Fax: (604) 591-3100.

C. Substitutions: Not permitted.

D. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MEMBRANE

A. Duradek Tiledek Membrane: Calendared polyvinyl chloride (PVC) film laminated to a woven, heat-set polyester fabric on the back surface. A non-woven geo-textile polyester fabric is laminated to the top surface to accept overlay.
   1. Sheet Width: 72 inches (1829mm).
   2. Sheet Thickness: 0.060 inch / 60 mil (1.5mm)
   3. PVC Film Thickness: 0.050 inch (1.3 mm).
   4. Weight: 55 ounces per square yard (1864 g/sm) nominal.
   5. Selvage edge: 1 1/2 inch (38 mm) edge applied to one roll side lap.

2.3 SUBSTRATE

A. Plywood: Minimum 3/4 inch (19 mm) exterior C-C sheathing grade with tongue in grove edges.

B. Concrete: concrete substrates are to comply with the requirements of the applicable code.

2.4 UNDERLAYMENTS

A. CBU (Cement Backer Unit): 1/2 inch (13mm) Durock cement board, as manufactured by USG. CBU to be applied to the plywood using a latex hydraulic mortar and fasteners in accordance with the manufacturer's specifications.

2.5 ADHESIVES

A. Duradek D-763-1: Water-based Liquid Adhesive – trowel grade, 11.5 Liter pail.

B. Duradek D-763-R: Water-based Liquid Adhesive - roller grade, 18.1 Liter pail.

C. Duradek D-811: Liquid Contact Adhesive – 14.5 kg pail.

2.6 OVERLAYS

A. Porcelain Tile: As specified in Division 9 meeting TTMAC or TCNA requirements. Freeze thaw rated where required.

B. Stone Tile: As specified in Division 9 meeting TTMAC or TCNA requirements. Freeze thaw rated where required.

C. Bond Coat: For drainage mat application over Ultra Tiledek; use a mortar in accordance with the specifications of both of the mortar manufacturer and the drainage mat manufacturer.

D. Bond Coat: For tile application directly to drainage matt; use a medium bed dry-set mortar which meets ANSIA118.1-1999 (2005) in accordance with the manufacturer's specifications.

E. Bond Coat: For tile application directly to the Ultra Tiledek membrane; use a rapid setting, flexible, polymer-modified thinset mortar which meets ANSI 118.4 and 118.11 as a lightweight mortar in accordance with the manufacturer's specifications considering the installation conditions and type of tile

F. Bond Coat: For CBU application directly to plywood substrate; use a poly modified mortar

G. Tile Grout: Use exterior grade, odor and stain resistant, sanded grout which meets ANSI A118.3.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work and conform to membrane manufacturer's requirements.

B. Verify that deck is:
   1. Secure, well supported, solid, and in accordance with local code structural requirements.
   2. Minimum 3/4 inch (19mm) C-C grade exterior sheathing with tongue-and-groove
   3. Clean and smooth, free of depressions, waves, and projections, properly sloped to drains, valleys, or eaves.
   4. Dry and free of ice and snow.

C. Notify the Architect of any conditions that would prevent satisfactory completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Do not proceed with installation until substrate preparation is complete.

B. Coordinate timing of installation to avoid construction traffic over completed traffic membrane surfaces.

C. Wood Substrate: Verify plywood is fastened according to local building code requirements.

D. Coordinate installation with installation of drains and similar accessories.

3.3 UNDERLAYMENT INSTALLATION

A. Laminate underlayment panel to plywood subfloor using polymer modified mortar. Cover mortar with panel immediately. Stagger joints by 1/2 panel in both directions from plywood subfloor joints. Fit ends and edges closely, leaving a maximum 1/8 inch (3mm) gap at panel edges and ends.

B. Fasten panels to subfloor while mortar is wet with 1 1/4 inch (32mm) Durock wood screws spaced 6 inches on center in both directions and 1/2 inch (12.5mm) from ends and edges. Do not overdrive fasteners.

3.4 MEMBRANE INSTALLATION

A. Fully adhere membrane to substrate in accordance with manufacturer's instructions, applicable codes, and CGSB-37-GP-55M.

B. Do not install when temperature is below 45 degrees F (7.0 degrees C) or above 98 degrees F (36.6 degrees C). Do not install when winds are gusting over 30 mph (48.3 kph).

C. Do not dilute primers, adhesives, coatings, or sealants.

D. Install membrane with seams placed in direction of slope. Overlap field seams 1.5 inch (38 mm), heat-weld all seams in accordance with manufacturer’s instructions.

E. Mechanically fasten all perimeter edges and penetrations.

F. Install flashings and accessories. Seal around all penetrations, drains, and edges.

3.5 FLOOD TEST

A. Perform a flood test with a minimum of 2 inches of water for 24 hours to verify a leak free installation. Plug drains and position barriers to contain water. Repair any leaks and retest before covering the membrane.

3.6 DRAINAGE MAT INSTALLATION

A. Drainage mat is applied using a bond coat specified by the drainage mat manufacturer.

B. Perimeter flashings are to be installed to allow any moisture draining through the drainage mat to escape.

3.7 TILE INSTALLATION

A. Mix rapid setting, flexible, polymer-modified thinset mortars in accordance with latex manufacturer’s instructions or as directed by TTMAC or TCNA.

B. Set tiles in accordance with TTMAC or TCNA standards.

C. Install expansion or movement control joints where required by TTMAC or TCNA standards.

3.8 ADJUSTING AND CLEANING

A. Clean soiled areas in accordance with manufacturer's recommendations.

B. Repair damaged areas to match original materials.

3.9 PROTECTION

A. Protect finished work from traffic using durable temporary materials.

END OF SECTION