

## SECTION 07 23 00

### HDPE Membrane Waterproofing – TREX<sup>®</sup> RainEscape<sup>®</sup> (TRE)

TREX<sup>®</sup> RainEscape<sup>®</sup> products are manufactured and sold by IBP, LLC under a Trademark License Agreement with Trex Company, Inc. RainEscape<sup>®</sup> is a federally registered trademark of IBP, LLC.

The unique TREX<sup>®</sup> RainEscape<sup>®</sup> under-deck drainage system keeps rain, spills, and snow melt from dripping through the decking boards above, creating a dry area below.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Deck Under-Deck Drainage System

##### 1.2 RELATED SECTIONS

- A. Section 06 10 00 – Rough Carpentry
- B. Section 06 11 00 – Wood Framing
- C. Section 07 13 54 – Thermoplastic Sheet Waterproofing
- D. Section 07 23 00 – HDPE Membrane Waterproofing

##### 1.3 REFERENCES

- A. ASTM International:
  - 1. ASTM D 1970/ D 1970 M - 20: Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
  - 2. ASTM D 3330/D 3330 M - 04: Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape
  - 3. ASTM D 3767: Standard Practice for Rubber – Measurement of Dimensions.
  - 4. ASTM D 5034 - 09: Standard Test Method for Breaking Strength and Elongation of Textile Fabrics.
  - 5. ASTM G 154: Standard that is used as the basis for all other accelerated weathering standards that use fluorescent UV light sources to stimulate exposure to natural sunlight.

##### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.

- C. Shop Drawings: Submit shop drawings including details of construction and relationship with adjacent construction.
- D. Verification Samples: For each finish product specified, two samples, minimum size 3 inches (75 mm), representing actual product, color, and patterns.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced in installation of specified material type with working knowledge of specified products and Project specific application requirements.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Material should be left in its original packaging until use.
- B. Store indoors, between 40 – 100 degrees F.
- C. Acclimate to installation temperature before use.
- D. Do not lay butyl tape on side after removed from packaging.
- E. Do not stack boxes above:
  - 1. Butyl tape 4 or fewer boxes tall
  - 2. Downspouts 3 or fewer boxes tall
  - 3. Trough 2 or fewer boxes tall
  - 4. Caulk 3 or fewer boxes tall
  - 5. Do not stack heavier boxes on lighter boxes
- F. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction

## 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. Limited Warranty:
  - 1. Manufacturer warrants that the Deck drainage system (“the System”) will be free from defects in material and manufacturing for a period of **twenty years** from the date of purchase the system will not leak when applied according to published directions.
  - 2. Specific terms for warranties can be found at: <https://trexrainscape.com/warranty/>

## PART 2 PRODUCTS

### 2.1 MANUFACTURES

- A. Contract Documents are based on products supplied by; IBP, LLC, 2965 S Tejon St, Englewood, CO 80110
- B. Substitutions: Not permitted under Division 01

### 2.2 DECK UNDER-DECK DRAINAGE SYSTEM

A. Thermoplastic Sheet Waterproofing.

1. Products: TREX® RainEscape® as manufactured by IBP, LLC.

a. 4 Part Deck Drainage System (“the System”)

- 1) Downspout consisting of Low-Density Polyethylene (LDPE). The Product is form molded:
  - (a) Material Thickness (ASTM D 3767): 40 mils (1.016mm) Nominal
  - (b) Size: 17.56x13.56x10.51 (WxLxH)
  - (c) Color: Black or Brown
- 2) Trough consisting of High-Density Polyethylene (HDPE). The product is extruded into shapes and sizes as follows:
  - (a) Material Thickness (ASTM D 3767): 20 mils (0.508mm) Nominal
  - (b) Material Width: 20 inches (50cm).
  - (c) Material Lengths: 12 feet (3.6m) and 16 feet (4.8m)
  - (d) Color: Black & Brown
- 3) Butyl Caulk
  - (a) 10oz Tube
- 4) Seam Tape (Single Sided)
  - (a) Material Thickness (ASTM D 3767): 20 mils (0.508mm) Nominal
  - (b) Material Width: 4 inches (10cm).
  - (c) Material Lengths: 50 feet (15.24m)
  - (d) Color: Black

b. Accessories

- 1) Fasteners
  - (a) Staples
    - (1) 18ga 3/8”x3/8” Chisel Point Heavy-Duty or Longer
  - (b) Steel Joist Tape (Double Sided)
    - (1) Material Thickness (ASTM D 3767): 60 mils (1.524mm) Nominal
    - (2) Material Width: 2 inches (10cm).
    - (3) Material Lengths: 50 feet (15.24m)
  - (c) Decking Fasteners
    - (1) Do not use spiked hidden fasteners, or any fastener without a flat base to provide pressure to butyl tape. Contact TRE Specialist at 1-877-348-1385 for recommendations.
- 2) Flashing
  - (a) 4x4 Post Skirt consisting of Thermo Plastic Urethane (TPU). The product is form molded:
    - (1) Material Thickness (ASTM D 3767): 20 mils (0.508mm) Nominal
    - (2) Size: 6.5 inches x 6.5 inches x 3.41 inches (WxLxH)
    - (3) Brown
- 3) Wall Flashing (Self-Adhesive)
  - (a) Material: EPDM Foam
  - (b) Material Thickness: 1/4-inch (6.35mm) Nominal
  - (c) Material Width: 1 inch (25.4mm)

- (d) Material Length: 25 feet (7.62m)
- (e) Material Color: Black
- c. Lighting
  - 1) Soffit Light
    - (a) Size: 5.5x5.5x1.5 (WxLxH)
    - (b) Color: Black, Bronze, or White

2. Tape Physical and Mechanical Properties as follows:

Performance	Method	Results	
Tensile strength (psi)	ASTM D 5034, modified	15 lbf/in @ 600% elongation	
Water penetration around nails	ASTM D 1970 section 7.9 modified 1.25" water / 24 hours	PASS	
Water penetration around nails after thermal cycling	ASTM D 1970 section 7.9 modified 1.25" water / 24 hours*	PASS	
Water penetration around screws (#10 x 3 1/2")	ASTM D 1970 section 7.9 modified 1.25" water / 24 hours	PASS	
Water penetration around screws (#10 x 3 1/2") after thermal cycling	ASTM D 1970 section 7.9 modified 1.25" water / 24 hours*	PASS	
Peel Adhesion to various substrates (lbf/in)	ASTM D 3330 Method F	OSB (APA-Smooth Side)	<b>4.2</b>
		Anodized Aluminum	<b>2.9</b>
		Extruded PVC	<b>3.1</b>
		Plywood (APA-B/C)	<b>4.5</b>
Accelerated aging	(ASTM G154, cycle 1 for 336 hours)	No Change PASS	
*Elevated temperature exposure AAMA 711-13 Level 3	(7days @ 176F) Thermal Cycling (10 cycles of 8 hours @120F/16 hour @ -40F)	PASS	
Peel adhesion after water Immersion	(7-day soak per AAMA 800 sect. 2.4.1.4.3)	PASS	

**PART 3 EXECUTION**

3.1 Installation

- A. Install according to TREX® RainEscape® installation guidelines.  
<https://trexrainscape.com/installation/>
- B. Do not use TREX® RainEscape® material for structural applications

3.2 Cleaning

- A. Rinse with water.

**END OF SECTION**