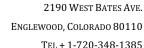
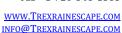


CENTRAL PERMITING @ HARNETTO ORG







SECTION 07 23 00

HDPE Membrane Waterproofing – TREX® RainEscape® (TRE)

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

The unique TREX® RainEscape® 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:

- 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 QUALTITY 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 heaver 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://trexrainescape.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")
 - 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)	4.2
		Anodized Aluminum	2.9
		Extruded PVC	3.1
		Plywood (APA-B/C)	4.5
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://trexrainescape.com/installation/
- B. Do not use TREX® RainEscape® material for structural applications

3.2 Cleaning

A. Rinse with water.

END OF SECTION