

SECTION 096016

FLOOR UNDERLAYMENT WITH NON-CHEMICAL TERMITE BARRIER

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Floor underlayment/termite barriers for [tile] [wood][[laminated] flooring.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

- A. International Code Council (ICC) (http://www.icc-es.org/Reports/index.cfm?csi_id=582&view_details)
 - 1. AC 380 – Acceptance Criteria for Termite Physical Barriers
- B. ASTM International (ASTM):
 - 1. C627 - Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester.
 - 2. D412 - Standard Specification for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.
 - 3. D570 - Standard Test Method for Water Absorption of Plastics.
 - 4. D1000 - Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications.
 - 5. D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - 6. E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - 7. E96/E96M - Standard Test Method for Water Vapor Transmission of Materials.
 - 8. E413 - Classification for Rating Sound Insulation.
 - 9. E492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine.
 - 10. E989 - Standard Classification for Determination of Impact Sound Insulation Class (IIC).
 - 11. F2130 - Standard Test Method for Measuring Repellency, Retention, and Penetration of Liquid Pesticide Formulation Through Protective Clothing Materials.

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Product Data: Manufacturer's product description and application instructions.
- B. Proof of long term termite resistance. Submit a copy of ICC ESR Evaluation Report showing compliance with AC 380 – International Code Council - Acceptance Criteria for Termite Physical Barriers.
- B. Sustainable Design Submittals:
 - 1. LEED Credit MR 5 - Regional Materials:
 - a. Indicate cost of products harvested, extracted, recovered, or manufactured within 500 mile radius of Project site.
 - b. Certify distance between manufacturer and project and between manufacturer and extraction or harvest point in miles.
 - c. Show cost of products meeting regional material requirements.
 - d. Certify manufacturer, product, and regional information source.
 - 2. LEED Credit EQ 5 - Indoor Chemical and Pollutant Source Control:

- a. Provide Proof of long term termite resistance. Submit a copy of ICC ESR Evaluation Report showing compliance with AC 380 – International Code Council - Acceptance Criteria for Termite Physical Barriers results demonstrating ability of product to physically block termite access into structure.
- 3. LEED Credit ID 1 - Innovation in Design: Provide test results documenting environmental and health benefits obtained through physical blocking of insects and other pests from entry to structure, therefore reducing need for application of pesticides over life of structure.
- 4. LEED Credit EB 3.9 – Indoor Integrated Pest Management:
 - a. Provide test results documenting ability of product to physically block termite access into structure.
 - b. Provide details of long term successful use, thus reducing usage of pesticides.
- 5. LEED for Homes Credit SS 5.e.ii - Pest Control Alternatives:
 - a. Provide test results documenting ability of product to physically block termite access into structure.
 - b. Provide details of long term successful use, thus reducing usage of pesticides.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Trained by manufacturer in proper installation of products.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Protect products from weather, sparks, flames, excessive heat, cold, and lack of ventilation.
- B. Store products on pallets, covered to prevent water damage.
- C. Store barriers between 60 and 80 degrees F prior to use.

1.6 PROJECT CONDITIONS

- A. Do not install barriers unless ambient and surface temperatures are above 40 degrees F and rising.
- B. Do not leave barriers exposed to ultraviolet light for longer than 30 days.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on products by Polyguard Products Inc, Ennis, Texas 75120-0755, 214-515-5000, www.polyguardbarriers.com.
- B. Substitutions: [Under provisions of Division 01.] [Not permitted.]

2.2 MATERIALS

- A. Floor Underlayment/Termite Barrier – Tile Flooring:
 - 1. Product: TERM® Tile Underlayment|Termite Barrier.
 - 2. Description: 10 mil geotextile bonded to 50 mils of barrier sealant.
 - 3. Physical properties:
 - a. Long term resistance to termite penetration: ICC AC 380 Acceptance Criteria for Termite Physical Barriers - Furnish ICC ESR Evaluation showing compliance
 - b. Elongation of sealant: Minimum 1000 percent, tested to ASTM D412.
 - c. Water vapor permeance: Maximum 0.02 grains per square foot per hour, tested to ASTM E96/E96M, Method B.
 - d. Water absorption: Maximum 0.035 percent, tested to ASTM D570.
 - e. Peel adhesion: 10.0 pounds per inch width, tested to ASTM D1000.
 - f. Pesticide repellency: 0 percent, tested to ASTM F2130.
 - g. Load cycling: Rated for light commercial use, tested to ASTM C627.

- h. Impact sound transmission: IIC of 69 dB, tested to ASTM E492 and classified to ASTM E989, with 6 inch slab, 40 mil barrier, quarry tile, and ceiling.
 - i. Impact transmission loss: STC of 69 dB, tested to ASTM E90 and classified to ASTM E413, with 6 inch slab, 40 mil barrier, quarry tile, and ceiling.
 - j. Pesticide repellency; chlorodane, fipronil, and permethrin: 0 percent penetration, tested to ASTM F2130.
- B. Floor Underlayment/Termite Barrier – Wood and Laminate Flooring:
- 1. Product: TERM® Wood Floor Underlayment|Termite Barrier – Concrete Substrate.
 - 2. Description: 3 mil polyethylene film with top surface treated with resin pattern, bonded to 37 mils of barrier sealant, and ½” extended adhesive edge on one side.
 - 3. Physical properties:
 - a. Long term resistance to termite penetration: ICC AC 380 Acceptance Criteria for Termite Physical Barriers - Furnish ICC ESR Evaluation showing compliance
 - b. Elongation of sealant: Minimum 1000 percent, tested to ASTM D412.
 - c. Water vapor permeance: Maximum 0.02 grains per square foot per hour, tested to ASTM E96/E96M, Method B.
 - d. Sealability around nails: Pass ASTM D1970 requirements.
 - e. Water absorption: Maximum 0.02 percent, tested to ASTM D570.
 - f. Peel adhesion: 5.0 pounds per inch width, tested to ASTM D1000.
 - g. Pesticide repellency; chlorodane, fipronil, and permethrin: 0 percent penetration, tested to ASTM F2130.

2.3 ACCESSORIES

- B. Polyguard 650 WBX Waterbase Liquid Adhesive
- C. Sealant Barrier: TERM® Termite Sealant

PART 3 EXECUTION

3.1 PREPARATION

- A. Examine surfaces to receive self-adhering membrane. Notify General Contractor if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.
- B. Ensure that subfloor is clean, dry, and free of dust and loose matter.
- C. Seal cracks wider than 1/16 inch with termite sealant barrier.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Liquid adhesive: Apply at rate of 250 to 300 ft² / gallon. Allow to dry to slight tacky surface (no transfer to fingers when touched). Do not apply multiple coats or excessive amounts.
- C. Install underlayment barrier to form 100 percent seal across floor surface without gaps.
- D. Cut barrier to required length.

For self-adhesive underlayment remove silicone coated release sheet at time of application. At the beginning of the roll, expose only a few inches of adhesive at a time until you are certain of perfect alignment of the flooring underlayment.

Remove the first 12” of the release liner and carefully place onto substrate, against wall and as square as possible. Step onto first 12” of installed material and walk behind the roll as you pull off the release liner and guide the material onto the concrete while smoothing underlayment down with feet as walking.

- E. For placement on floor
 - 1. Tile Flooring Underlayment: Place exposed adhesive bottom onto substrate, butting against but not overlapping, adjacent piece.
 - 2. Wood Flooring Underlayment – concrete substrate: Place exposed adhesive bottom onto substrate. Overlap with the ½” extended adhesive edge, butt against end lap.
- F. If Sill Barrier has been installed underneath framing, tie the flooring underlayment into the Sill Barrier obtaining 100% seal of the horizontal surface
- G. Smooth barrier into place, avoiding blisters. If blisters occur, slit and press membrane flat.
- H. Roll surface to ensure that barrier is firmly adhered to subfloor.
- I. Fill any gaps between flooring underlayment, or between flooring underlayment and Sill Plate Barrier, with sealant barrier. Product is trafficable immediately, but care should be taken if flooring is not installed ASAP. No waiting is necessary before installing flooring.

END OF SECTION