

SECTION 09 34 00

ANTI-FRACTURE MEMBRANE UNDERLAYMENT WITH INSECT BARRIER SEALANT SYSTEM

This guide specification has been prepared by Polyguard Products Inc., in printed and electronic media, as an aid to specifiers in preparing written construction documents for anti-fracture membrane underlayment for tiling. Polyguard® TERM™ Tile Underlayment Barrier is a composite membrane of fabric and rubberized asphalt, 40 mils in thickness. This elastomeric, self-adhesive membrane is wound on cores with a disposable silicone coated release sheet. It is used for a variety of subflooring surfaces including ceramic or brick flooring with thin or thick tile setting materials. It can absorb stress caused by concrete cracking, helping to prevent cracks in the subfloor from appearing in the tile surface above. The sealant formulation is one which has been tested in the field for over five years at multiple locations by Texas A&M's Urban Entomology Department, and has been found effective as a termite barrier.

Edit entire master document to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences may contain choices to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance-, proprietary-, and/or descriptive-type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices. Remove these editor notes before final printing of specification.

This guide specification is written around the Construction Specifications Institute (CSI) Section Format standards.

For specification assistance on specific product applications, please contact our offices or any of our local product representatives throughout the country.

Polyguard Products Inc. reserves the right to modify these guide specifications at any time. Updates for this guide specification will be posted on the manufacturer's web site and/or in printed media as they occur. Manufacturer makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of anti-fracture tiling membrane.
- C. Accessory Products

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

- A. Section 03 30 00 – Cast-in-Place Concrete
- B. Section 09 30 00 – Tiling

1.03 REFERENCES

- A. ASTM C 627 (10) – Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson Type Floor Tester.
- B. ASTM D 146 – Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing.
- C. ASTM D 412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
- D. ASTM D1000 – Test Method for Pressure-Sensitive - Coated Tapes Used for Electrical and Electronic Applications.

- E. ASTM E 90 (04) – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- F. ASTM E 413 (04) – Classification for Rating Sound Insulation.
- G. ASTM E 492 (04) – Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor Ceiling Assemblies Using the Tapping Machine.
- H. ASTM E 989-89(99) – Standard Classification for Determination of Impact Insulation Class (IIC).
- I. American National Standards Institute (ANSI): A118.12 High Performance Standard for Crack Isolation.
- J. ASTM D1758 – 06 – Standard Test Method for Evaluating Wood Preservatives

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations.
- B. Samples: Submit representative samples of the following for approval:
 - 1. Sheet Membrane

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Sheet Membrane must be manufactured by a company with a minimum of ten (10) years of experience in the production and sales of membrane materials.
- B. Material Qualifications: Underlayment Barrier must have been tested by a recognized governmental agency or university for a minimum of five (5) years at four filed locations and found to be effective against *Coptotermes formosanus* and *Reticulitermes flavipes*.
- C. Applicator Qualifications: A firm having at least three (3) years of experience in applying these types of specified materials and specifically accepted in writing by the membrane system manufacturer.
- C. Materials: For each type of material required to complete the work of this section, provide primary materials which are the products of a single manufacturer.
- D. Pre-Application Conference: A pre-application conference shall be held to establish procedures and to review conditions, installation procedures and coordination with other related work. Meeting agenda shall include review of special details and flashing.
- E. Manufacturer's Representative: Arrange to have trained representative of the manufacturer on site periodically to review installation procedures.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Store adhesives at temperatures of 40°F (5°C) and above to facilitate handling.
- D. Store membrane cartons on pallets.
- E. Keep away from sparks and flames.

- F. Completely cover when stored outside. Protect from rain.
- G. Protect materials during handling and application to prevent damage or contamination.

1.07 PROJECT CONDITIONS

- A. Perform work only when existing and forecasted weather conditions are within the limits established by the membrane manufacturer. Do not apply membrane if the temperature is below - 35°F (-37°C) or to a damp, frost covered, or otherwise contaminated surface.
- B. Surfaces to receive the underlayment must be smooth, dry, and free of dust, dirt, or other foreign materials. Proceed with installation only when substrate construction and preparation work is complete.
- C. Warn personnel against breathing vapors and contact with skin and eyes; wear appropriate protective clothing and respiratory equipment. Solvent-based adhesive not to be used indoors without proper ventilation.
- D. Keep flammable products away from spark or flame. Post “No Smoking” signs. Do not allow use of spark-producing equipment during application and until all vapors have dissipated.
- E. Maintain work area in a neat and workmanlike condition. Remove empty cartons and rubbish from the site daily.

1.08 WARRANTY

- A. Manufacturer warrants only that this product is free of defects, since many factors which affect the results obtained from this product are beyond our control; such as weather, workmanship, equipment utilized and prior condition of the substrate. Manufacturer will replace, at no charge, proven defective product within twelve (12) months of purchase, provided it has been applied in accordance with our written directions for uses we recommended as suitable for this product. Proof of purchase must be provided. A five (5) year material or system warranty may be available upon request. Contact Polyguard Products, Inc. for further details.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Polyguard Products Inc. P.O. Box 755 Ennis, TX 75120-0755; Phone: (214) 515-5000
Fax: (972) 875-9425 Email: info@polyguardproducts.com

2.02 SYSTEM MATERIALS

- A. Insect Barrier and Anti-fracture Self-adhesive Membrane: Shall be Polyguard® TERM^(TM) Tile Underlayment Barrier, a 40-mil rubberized asphalt membrane consisting of a fabric and sealant asphalt meeting or exceeding the following requirements:

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
TOTAL UNDERLAYMENT THICKNESS		40 mils
ELONGATION - ULTIMATE FAILURE OF RUBBERIZED ASPHALT	ASTM D 412 Modified Die C	>1200% (<i>minimum</i>)
LOW TEMPERATURE ELASTICITY	ASTM D 146 Modified	Does not crack when bent over a mandrel at -15° F
PEEL ADHESION	ASTM D1000	>10 lbs./in. width

PROPERTY	TEST METHOD	TYPICAL VALUE
ROBINSON TEST – LOAD CYCLING	ASTM C 627	Rated for light commercial
IMPACT SOUND TRANSMISSION TEST 6" SLAB / 40 MIL MEMBRANE / QUARRY TILE / CEILING	ASTM E 492-04 ASTM E 989-89	IIC = 69 dB
IMPACT TRANSMISSION LOSS TEST 6" SLAB / 40 MIL MEMBRANE / QUARRY TILE / CEILING	ASTM E 90-04 ASTM E 413-04	STC = 69 dB
HIGH PERFORMANCE STANDARD FOR CRACK ISOLATION	ANSI A118.12	Exceeds
LONG TERM PROTECTION AGAINST TERMITE (<i>COPTOTERMES</i> <i>FORMOSANUS AND RETICULITERMES</i> <i>FLAVIPES</i>) PENETRATION	ASTM D 1758-06 Texas A&M 4 test sites Over 5 years vs controls	100% effective

2.03 SYSTEM ACCESSORIES

A. Surface Primer Roller-grade Adhesive:

1. Polyguard® 650 LT Liquid Adhesive: A rubber-based adhesive insolvent solution which is specifically formulated to provide excellent adhesion with the Polyguard Waterproofing Membranes to prime all structural concrete, masonry, insulation, or wood surfaces. It is designed to be used on applications down to 25°F (-4°C).
2. Polyguard® California Sealant: A rubber-based sealant in solvent solution which is specifically formulated to provide excellent adhesion with the Polyguard Waterproofing Membrane. The VOC (Volatile Organic Compound) content meets the South Coast Air Quality Management District regulations established under the February 1, 1991 version of Rule 1168 © (2) Adhesion and Sealant Applications. California Sealant is classified as an Architectural Sealant Primer Porous, with VOC of 521 g/L. Current SCAQMD regulations for this type sealant primer are 775 g/L.
3. Polyguard® Shur-Tac Liquid Adhesive: Roller-grade, polymer emulsion based adhesive. It is used to prime all structural concrete, masonry, insulation, or wood surfaces. Designed to be used on applications down to 25°F (-4°C).

PART 3 EXECUTION

3.01 EXAMINATION

- 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.

3.02 SURFACE PREPARATION

- A. Refer to manufacturer product literature for surface preparation requirements. Surfaces should be structurally sound, free of voids, spalls, loose aggregate and sharp ridges. Remove dust, dirt, debris or any other foreign materials such as wax, oil, grease, or form release agents. Use repair materials that are acceptable to the sheet membrane manufacturer.
- B. Cast-In-Place Concrete:
1. Normal-weight structural concrete must be allowed to cure a minimum of seven (7) days. Light-weight concrete must be allowed to cure a minimum of fourteen (14) days. All concrete surfaces must be dry to the touch before proceeding with the installation of the anti-fracture membrane system.

2. Concrete must be sloped to provide proper drainage.
3. Moisture in floor must not exceed 3 lbs/1,000 sf. Use Anhydrous Calcium test kit, per ASTM F 1869-98.
4. If horizontal crack or joint exceeds 1/4" do not use.
5. Do not use if cracks or joints are out of plane, or over (dynamic) expansion joints.
6. Bi-level drains should be installed and have a minimum three (3) inch flange. Drains should be installed with the flange flush and level with the surrounding concrete surface.

C. Other Substrates:

1. Include concrete cured 28 days, backer units per Tile Council of America recommendations (TCA), radiant heated floors (per TCA), plywood (per TCA), Group 1 exterior grade CC plugged or better.

3.03 APPLICATION

A. Priming:

1. Apply primer to a cleaned, dust free surface. Apply by roller or spray at the rate of 250-300 sq. ft. per gallon. Apply Polyguard® Shur-Tac Liquid Adhesive at the rate of 350-400 per gallon. Allow to dry per manufacturer directions.

B. Membrane Installation:

1. Install in strict accordance with manufacturer's application procedures, precautions and limitations.
2. Roll the surface with a small hand type roller or hand pressure during application to eliminate minor wrinkles and air pockets.
3. If an exterior project has potential for high moisture content in the slab, and protection against water penetrating from the slab is required, the following additional steps must be taken.
 - a. Prime concrete with Polyguard® 650 LT Liquid Adhesive(solvent-base), not the Polyguard® Shur-Tac Liquid Adhesive (water-base).
4. The use of Acrylic Latex modified thinset is recommended.

END OF SECTION