GUIDE SPECIFICATION

polyguard

SECTION 07130 (07 13 26)

SELF-ADHERING SHEET

WATERPROOFING WITH TERMITE BARRIER

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** NOTE TO SPECIFIER ** TERM Waterproofing and Termite Barriers; Waterproofing + Physical Termite Barriers.

This section is based on the products of TERM Waterproofing and Termite Barriers, which is located at:

4101 South Interstate 45 Highway
Ennis, TX 75119
Phone: 214-515-5000
Fax: 972-875-9425
Email: info@polyguardproducts.com
Web: http://www.polyguardproducts.com/term

[Click Here] for additional information.
Polyguard's history began with corrosion protective coatings in 1951, In 1970 structural waterproofing was added.

Now we add TERM non-chemical termite barrier which is integrated into waterproofing. This results from 20+ years of work with entomology scientists.

Water and termites “leak" into the structure through the building envelope. Around most of the envelope, both types of leaks can now be stopped.

Concrete floors and walls have joints; through which water and termites enter. Concrete slabs crack, creating new entry points. It cannot be predicted where cracks will appear in the slab, so full protection should include 100% underslab and foundation wall coverage with TERM® Barriers.

The objective is first to block water, and second to block termites trying to find gaps as small as 1/50th of an inch. Since keeping termites out means keeping virtually all other insects out, you will see a variety of health, comfort, and environmental benefits.

Above the slab, TERM Sill Barrier is installed and tied into flashing at the base of the exterior sheathing, providing protection from moisture, termite, and air leaks.

Several non-waterproofing TERM barriers, which protect against termites at points of drainage, ventilation, and exposed perimeters, are also part of the TERM System. These protect areas where TERM Barrier waterproofing cannot be installed.

PART 1 GENERAL

1.1 SECTION INCLUDES

** NOTE TO SPECIFIER ** Delete items below not required for project.

A. Surface preparation.

B. Application of self-adhering waterproofing and insect barrier system.

C. Accessory Products

1.2 RELATED SECTIONS

** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 04 20 00 - Unit Masonry.

C. Section 07 11 00 - Dampproofing.

D. Section 07 13 00 - Underslab Sheet Waterproofing with Non-Pesticide Termite Barrier.

E. Section 07 13 26 - Self-Adhering Sheet Waterproofing with Termite Barrier.

F. Section 07 60 00 - Flashing and Sheet Metal.

G. Section 07 92 00 - Joint Sealants.

H. Section 07 95 00 - Expansion Control.

I. Section 31 31 16 - Pest Control Barriers.

J. Section 33 46 00 - Subdrainage.

1.3 REFERENCES

** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.

A. International Code Council (ICC):
   1. AC 380 - Acceptance Criteria for Termite Physical Barriers – Evaluation Report demonstrating five year multi-site field trial against Formosan termites, with zero failures, plus other criteria.

B. ASTM International (ASTM):
   1. ASTM D 1758 – Standard Test Method of Evaluating Wood Preservatives
   2. ASTM D 146 - Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing.
   3. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension
   4. ASTM D 570 - Standard Test Method for Water Absorption of Plastics
   5. ASTM E 96 (Method B) - Standard Test Methods for Water Vapor Transmission of Materials
   6. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
   7. ASTM D 882 - 02 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
   8. ASTM E 154 - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
   9. ASTM D 5385 - 93(2006) Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing and insect barriers.
   10. ASTM D 1000 - 04 Standard Test Method for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications
   11. Radon Reduction Technology Laboratory - Resistance to Permeance by Radioactive Radon Gas; Resistance to Diffusion by Radioactive Radon Gas
   12. ASTM F 2130 - Measuring Repellency, Retention, and Penetration of Liquid Pesticide Formulation Through Protective Clothing Materials

C. General Services Administration:
   1. Public Building Service: GSA-PBS-07115 Guide Specification for Elastomeric Waterproofing

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data:
   1. Manufacturer’s product data, installation instructions, use limitations and recommendations. Include certification of data indicating VOC (Volatile Organic Compound) content of all components of barrier system.

2. 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 demonstrating five year multi-site controlled field trial against Formosan termites with zero failures, plus other criteria.
3. Preparation instructions and recommendations.
4. Storage and handling requirements and recommendations.
5. Typical installation methods.

** NOTE TO SPECIFIER ** Delete if not applicable to product type.

C. Verification Samples: Two representative units of each type, size, pattern, and color for the following:
1. Sheet barrier.
2. Protection board.
3. Prefabricated drainage composite.
4. Perimeter drainage composite.

D. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

E. Sustainable Design Submittals: LEED v4.
1. EA perquisite and credit – Energy Performance:
   a. Indicate how this material can improve energy conservation.
2. MR credit - Regional Materials and Recycling content:
   a. Indicate percentage of materials recycled pre-consumer.
   b. Indicate percentage of materials recycled post-consumer.
   c. Indicate percentage of materials sourced within 100 miles of the manufacturing facility.
3. MR credit – Building Product Disclosure and Optimization:
   a. Indicate whether the building product(s) have published a complete Health Product Declaration (HPD) with full disclosure of known hazards to at least 0.1 percent (1000 ppm) in compliance with the Health Product Declaration Open Standard addressing all components of the system,
4. EA perquisite and credit – Energy Performance:
   a. Indicate how this material can improve energy conservation.
5. MR credit: Construction and Demolition Waste Management:
   a. Indicate what portion of the building product is recyclable in areas where there is facility to recycle.
   b. For each recyclable material listed in 5.a above, list its weight.
6. EQ credit – Low Emitting Materials:
   a. For each building product material used on the interior of the structure, and applied on site, list the VOC content and where the material is applied.
   b. For each building product material used on the exterior of the structure, and applied on site, list the VOC content and where the material is applied.
7. IN credit - Innovation – Interior Wellness and Comfort:
   a. Provide test results documenting ability of product to physically block termite access into a structure, thus reducing the usage of pesticides.
   b. Provide details of why the product can increase long term comfort or interior wellness of the building occupants.
8. IN credit – Innovation - Indoor Integrated Pest Management:
   a. LEED v4 standards call out the implementation of IPM (Integrated Pest Management). Typical LEED wording in IPM guidelines is “Nonchemical pest preventive measures, either designed into the structure or implemented as part of pest management activities. Describe the area(s) of the building envelope where this building product will provide protection against entry of insects.
9. LEED v4 for Homes – SS credit - Nontoxic Pest Control - Pest Control Alternatives:
   a. Provide documentation of the ability of product to physically block termite or other pest access into structure.
10. LEED v4 for Homes – EA credit – Air Infiltration:
   a. Provide details of how the building product will reduce air infiltration to the structure.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Barrier System must be manufactured by a company with a minimum of 10 years of experience in the production and sales of barrier materials.

1. Manufacturer's Representative:
    a. Arrange to have trained representative of the manufacturer on site periodically to review installation procedures.
    b. Will assist with construction of any mockups required by the Architect.
    c. Will represent the Manufacturer at the preconstruction conference.

B. Applicator Qualifications: A firm having at least 3 years of experience in applying these types of specified materials and specifically accepted in writing by the barrier 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.

** NOTE TO SPECIFIER ** Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
3. Retain mock-up during construction as a standard for comparison with completed work.
4. Do not alter or remove mock-up until work is completed or removal is authorized.

1.6 PRE-INSTALLATION CONFERENCE

A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Manufacturer's Representative, Contractor, and trades involved. Agenda shall include schedule, responsibilities, critical path items, approvals, and to establish procedures and to review conditions, installation procedures and coordination with other related work. Review the details and waterproofing specifications.

1.7 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 degrees F (5 degrees C) and above to facilitate handling.

D. Store barrier cartons on pallets.

E. Do not store at temperatures above 90 degrees F (32 degrees C) for extended periods.

F. Keep away from sparks and flames.

G. Completely cover when stored outside. Protect from rain.

H. Protect materials during handling and application to prevent damage or contamination.

I. Avoid use of products which contain tars, solvents, pitches, polysulfide polymers, or PVC materials that may come into contact with waterproofing and insect barrier system.

1.8 PROJECT CONDITIONS

A. Work should be performed only when existing and forecasted weather conditions are within the limits established by the barrier manufacturer. Barrier should only be installed when temperature is 40 degrees F (4.44 degrees C) and rising. Consult manufacturer for information concerning cooler temperatures.

B. Proceed with installation only when substrate construction and preparation work is complete. Ensure that subsoil is approved by architect or geotechnical firm.

C. Warn personnel against breathing of vapors and contact with skin and eyes; wear appropriate protective clothing and respiratory equipment.

D. Keep flammable products away from spark or flame. Post “No Smoking” signs. Do not allow spark producing equipment to be used 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.

1.9 WARRANTY

A. Product will be replaced at no charge if proved to be defective within 12 months of purchase, provided it has been applied in accordance with manufacturer written directions for uses 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

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Term Waterproofing and Termite Barriers, which is located at:3801 South Interstate 45 Highway; Ennis, TX 75119; Phone: 214-515-5000; Fax: 972-875-9425; Email: info@polyguardproducts.com; Web: http://www.polyguardproducts.com/term.

** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

B. Substitutions: Not permitted.

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

2.2 SELF-ADHESIVE WATERPROOFING WITH TERMITE BARRIER

A. Basis of Design: Polyguard TERM Foundation Barrier. A 68 mil (1.73 mm) rubberized asphalt barrier consisting of a high density polyethylene film bonded to a layer of rubberized asphalt meeting or exceeding the following requirements:

B. Physical Properties of Barrier:
1. Long term resistance to termite penetration per International Construction Code (ICC) AC 380 Acceptance Criteria for Termite Physical Barrier Systems:
   a. ICC AC 380 Compliance: Submit ICC ES Evaluation Report demonstrating AC 380 compliance.
2. Color: White with red printing.
3. Barrier Thickness per ASTM D1000: 0.068 inches (1.69 mm).
4. Long Term Testing against Termite Penetration, 2 Controlled Field Sites per ASTM D1758: 100 percent exclusion after five years.
5. Elongation of Barrier Sealant, Percent Stretch Before Failure per ASTM D412: Greater than 500 percent.
6. Resistance to Radioactive Radon Gas; Radon Reduction Technology Laboratory percent reduction in radon gas diffusion: 97.1 percent.
7. Pesticide Repellency (Chlorodane, fipronil, permethrin) per ASTM F2130: 0 percent.
8. Permeance to Moisture / Water Vapor per ASTM E96-B: 0.03 Grains per sq ft per hour per inch (0.02 HGF Grains per hour per sq m).
9. Tensile Strength, Film Backing per ASTM D882: 6500 psi (44.82 N per sq mm).
10. Tensile Strength, Barrier Composite per ASTM D412 (Modified Die C): 325 psi (2.25 N per sq mm).
11. Peel Adhesion per ASTM D1000: 10.0 lbs per inch (1.75 M per mm) width.
12. Overlap Bond per ASTM D1000: 8.0 ;bs per inch (1.4 N per mm) width.
13. Low Temperature Flexibility per ASTM D146 180 degree bend over 1 inch (25 mm) mandrel at -25 degrees F(-32 degrees C): No cracking or delamination.
14. Barrier Puncture Resistance per ASTM E154: (Blunt Instrument): 50 lbs (182 N).
15. Resistance to Hydrostatic Head per ASTM D5385: 231 ft (70.4 m).
16. Exposure to Fungi in Soil per GSA-PBS 07115 16 weeks: No effect.
17. Water Absorption per ASTM D570: 0.1.

2.3 SYSTEM ACCESSORIES

A. Surface Primer Roller Grade Adhesive:

** NOTE TO SPECIFIER ** Not suitable for ICF. Delete if not required.

1. Polyguard 650 LT Liquid Adhesive: A rubber based adhesive in solvent solution formulated to provide adhesion with the Polyguard TERM Foundation Barrier to prime all structural concrete, masonry, insulation, or Wood surfaces. Designed to be used on applications down to 30 degrees F (-1 degrees C).

** NOTE TO SPECIFIER ** Not suitable for ICF. SCAQMD regulations for this sealant primer are 775 gram per Liter. Delete if not required.

2. Polyguard California Sealant: A rubber based sealant in solvent solution formulated to provide adhesion with the Polyguard TERM Foundation Barrier.
   a. The VOC (Volatile Organic Compound) Content: 521 grams per Liter.
   b. Meets South Coast Air Quality Management District (SCAQMD) Regulations.
   c. Classified as an Architectural Sealant Primer Porous.

** NOTE TO SPECIFIER ** Suitable for ICF. Delete if not required.

3. Polyguard 650 WB Water based 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 40 degrees F (5 degrees C).

B. Polyguard Detail Sealant PW: Single component elastomeric sealant. Environmentally friendly, non-isocyanate product that replaces silicone and urethane sealants. Low VOC/HAPS free, high performance, flexible sealant that is solvent free. Used on substrates including: Rigid PVC, bare aluminum, stainless steel, galvanized steel, anodized aluminum, tile, wood, concrete, FRP, polystyrene, molded polyurethane, polyester, and ABS.

C. Polyguard TERM Termite Sealant: Formulated with a proprietary blend of polymers, asphalts, additives, and solvents. A sealant barrier, applied with a smoothing tool. The sealant is used for waterproofing termite and insect exclusion, and termite shield detailing. It is used for protection of slab penetrations as well as detailing.
   1. Physical Properties:
      a. Long Term Testing against Termite Penetration per ICC AC 380 Acceptance Criteria for Termite Physical Barriers: Submit ICC ES Evaluation Report demonstrating AC 380 compliance.
      b. Elongation of Barrier Sealant, Percent Stretch Before Failure per ASTM D412: 1000 percent.
      c. Permeance to Moisture and Water Vapor per ASTM E96-B: 0.035 Grains per sq ft per hour per inch HGF (0.023 Grains per hour per sq m)
      d. Water Absorption per ASTM D570: 0.1 percent.
      e. Low Temperature Flexibility per ASTM D146 180 degree bend over 1 inch (25 mm) mandrel at -25 degrees F (-2 degrees C): No cracking or delamination.
      f. VOC Content, Calculation Based on Formula: 247 grams per Liter.

D. Drainage Composite:
   1. Vertical Surfaces Only: Polyflow 15P Drainage Mat: Three-part prefabricated geo-composite drain. A formed polystyrene core covered on one side with polypropylene filter fabric.
      a. Fabric allows water to pass into drain core while restricting movement of soil particles which might clog the core.
      b. The core allows water to flow to designated drainage exits.
   2. Horizontal Surfaces Only: Polyguard Polyflow 18H Drainage Mat: Two part prefabricated geo-composite drain. A formed polystyrene core covered on one side with woven mono-filament filter fabric.
      a. Fabric allows water to pass into drain core while restricting movement of soil particles which might clog the core.
      b. The core allows water to flow to designated drainage exits.

E. Perimeter Drainage System: Polyguard Totalflow: Provides both water collection and high-profile section allowing for high-capacity water flow to designated drainage exits.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly constructed and prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Protect adjacent surfaces not designated to receive barrier.

~~B.~~ Prepare surfaces to receive barrier in accordance with manufacturer's Instructions.

C. Do not apply barrier to surfaces unacceptable to manufacturer.

D. Concrete surfaces must be clean, smooth, and free of standing water.

E. Patch all holes and voids and smooth out any surface misalignments.

F. If the surface is ICF, clean all dust off of the ICF surface.

G. Cast-In-Place Concrete:
1. Normal weight structural concrete must be allowed to cure a minimum of 7 days.
2. Lightweight structural concrete, the minimum cure time is 14 days.
3. All concrete surfaces must be dry to the touch before proceeding with the installation of the barrier system.
4. Fill all form tie holes. Finish flush with the surrounding surface.
5. Fill and repair bug holes in concrete. Finish flush with the surrounding surface.
6. All cracks over 1/16 inch (1.6 mm) in width and any moving cracks under 1/16 inch (1.6 mm) shall be routed out to a minimum of 1/4 inch (6 mm) width and sealed using a high performance polyurethane sealant. Allow adequate curing time per the manufacturer’s directions. Once cured, install an 8 inch (203 mm) wide strip of Foundation Barrier over the crack.

H. Masonry Surfaces:
1. Apply foundation barriers and insect barrier over brick or CMU that has been parged using a cementitious parge coat to level surface and reduce porosity.

3.3 APPLICATION

A. Priming: Apply liquid adhesive to a clean dust free surface by roller following manufacturer’s instructions.

B. Barrier Installation: Vertical surfaces.
1. Inside and Outside Corners: Treat by one of the following methods/
   a. Flashing: 12 inch (305 mm) wide barrier strip centered over outside corners.
   b. Detail Sealant: Apply at 90 mil (2.29 mm) thick.
2. Install a 3/4 inch (19 mm), 45 degree angle cant of detail sealant at changes in plane including inside corners.
3. Foundation Barrier: Applied vertically centered over outside corners in section lengths up to 8 ft (2.438 m).
   a. Walls Higher than 8 ft (2.438 m): Apply two or more sections with the upper sections overlapping the lower sections.
4. Side Laps: A minimum of 2-1/2 inches (34 mm).
5. End Laps: A minimum of 6 inches (152 mm).
6. Use a hard roller or firmly press in the material as it is placed on the vertical surface.
   a. Seams and terminations should be firmly rolled with a hard roller.
7. Terminations of Foundation Barrier: Secured by a termination bar and receive a bead of detail sealant.
   a. Sealant Bead: Should be troweled to a flat surface approximately 1/8 inch (3 mm) thick by 3/4 (19 mm) inches wide. Work sealant into cut edge terminations.
8. Inadequately Lapped Seams and Damaged Areas: Patch with Foundation Barrier.
   a. Patched Area: To extend 6 inches (152 mm) minimum in each direction beyond the defect.
9. Fishmouths and Severe Wrinkles: Slit, overlap the flaps and repair as a damaged area.

C. Barrier Installation: Horizontal surfaces.
1. Seal penetrations, posts, or projections, with Termite Barrier Sealant.

a. Apply a second flashing sheet over penetration extending a 6 inches (152 mm) minimum from the detail.
b. Cut edges of terminations must be sealed with detail sealant.

2. Inside and Outside Corners:
   a. Treated with 12 inch (305 mm) strips of Foundation Barrier centered over the corner.
   b. Treat with 12 inch (305 mm) wide by 90 mil (2.29 mm) thick application of detail sealant.
   c. Inside Corners: Must have a minimum 3/4 inch (19 mm) fillet of detail sealant.
3. Foundation Barrier: Applied to prepared surface starting at low point and working to the high point in a shingling technique.
4. Side Laps: A minimum of 2-1/2 inches (34 mm).
5. End Laps: A minimum of 6 inches (152 mm).
6. Entire Barrier: Firmly rolled with a linoleum roller weighing approximately 75 lbs (34 kg). This ensures adhesion and minimizes air pockets between the substrate and barrier.
7. At Drains: Apply detail sealant around inside edge of drains out to at least 6 inches (152 mm). Then overlap with barrier a minimum of 6 inches (152 mm). Permanently exposed cut edge terminations must be sealed with detail sealant.
8. Barrier turned up on walls shall be terminated into a reglet or under a counter flashing. The barrier may also be rolled firmly to the wall and sealed with a troweled bead of detail sealant.
9. Inadequately lapped seams and damaged areas should be patched with small section of barrier. The patch area should extend a least 6 inches (152 mm) beyond the defect.
10. Fishmouths and severe wrinkles should be slit, flaps overlapped and repaired as above.
11. Upon completion of horizontal barrier application, flood test the surface with 2 inches (51 mm) of water for 24 hours. Check with the structural engineer to make sure the deck structure will withstand the weight of the flood test.
12. Mark any leak areas found during flood test and make repairs.

D. Protection and Drainage Course:
   1. Apply protection board and/or drainage composite and perimeter drainage composite in accordance with manufacturer's written directions.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

** NOTE TO SPECIFIER ** Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

B. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

3.5 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturers recommendations.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION