

SECTION 02363 (31 31 16)

PEST CONTROL BARRIERS

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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. Termite control applied to slab blockouts or bath traps.
- B. All pest barrier applied to slab blockouts or bath traps.
- C. Termite control applied to slab penetrations.

- D. Termite control of exposed perimeter with particle barrier.

1.2 RELATED SECTIONS

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

- A. Division 01: Administrative, procedural, and temporary work requirements.
- B. Division 31: Pest Control.
- C. Section 03 30 00 - Cast in Place Concrete.
- 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 28 00 - Flashing and Sealing Framing with Non-Chemical Moisture and Termite Barriers.
- G. Section 32 90 00 - Planting.

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. ASTM International (ASTM):
 - 1. ASTM C29/C29M - Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate.
 - 2. ASTM C33/C33M - Standard Specification for Concrete Aggregates.
 - 3. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - 4. ASTM D146/D146M - Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing.
 - 5. ASTM D412 - Standard Specification for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.
 - 6. ASTM D451 - 17 Standard Test Method for Sieve Analysis of Granular Mineral Surfacing For Asphalt Roofing Products -
 - 7. ASTM E96/E96M - Standard Test Method for Water Vapor Transmission of Materials.
 - 8. ASTM F2130 - Standard Test Method for Measuring Repellency, Retention, and Penetration of Liquid Pesticide Formulation Through Protective Clothing Materials.
 - 9. ASTM E11 – Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
- B. ICC International Code Council:
 - 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.
- C. U.S. Environmental Protection Agency:
 - 1. Pesticide Registration Manual – Chapter 13 – Devices.

1.4 SUBMITTALS

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

- C. Proof of Long Term Termite Resistance. Submit a copy of ICC ESR Evaluation Report showing compliance with ICC AC 380 – International Code Council - Acceptance Criteria for Termite Physical Barriers.

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

- D. Verification Samples: Two representative units of each type, size, pattern, and color.
- E. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

**** NOTE TO SPECIFIER ** Include the following for submission of sustainable design submittals.**

- F. Sustainable Design Submittals: LEED v4.
1. EA prerequisite 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 prerequisite 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 a 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. EQ Credit – Indoor Chemical and Pollutant Source Control:
 - a. Provide documentation of testing of ability to physically block access by termites into the structure and provide details of long term successful use in areas of the U.S., thus reducing future usage of pesticides.
 8. IN credit - Innovation – Interior Wellness and Comfort:
 - a. Provide test results documenting ability of product to physically block termite access into.
 - b. structure, thus reducing the usage of pesticides.
 - c. Provide details of why the product can increase long term comfort or interior wellness of the building occupants.
 9. 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.*
 10. 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.
11. 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: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

B. Installer:

**** NOTE TO SPECIFIER ** Delete option not required. The second option applies to perimeter particles.**

- 1. Trained by the manufacturer in bath trap and penetration termite barrier application.
- 2. A pest control operator who is licensed by the jurisdiction where the material is being installed.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

D. Comply with requirements listed on EPA label, guide specification, and product data sheet.

**** 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.**

E. 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, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

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, manufacturer, EPA Establishment Number, and instructions for installation.

B. Protect products from weather, sparks, flames, excessive heat, cold, and lack of ventilation.

C. Store products on pallets, covered to prevent water damage.

D. Products should be kept dry and away from UV exposure.

1.8 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.

B. Light and space should be adequate for the installer to see clearly.

1.9 WARRANTY

A. Manufacturer's standard limited warranty unless indicated otherwise.

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 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.

**** NOTE TO SPECIFIER ** Delete article not required.**

2.2 TERMITE CONTROL APPLIED TO SLAB BLOCKOUTS OR BATH TRAPS

- A. Particle Barrier: For bath trap.
1. Product: TERM Particle Barrier.
 2. Description: Selected quartz particles sorted and sized to block prevalent termite species in Project area.
 3. Physical properties:
 - a. Particle size tested to ASTM D451-17: Minimum 85 percent of sieve size 8-16.
 - b. Fineness module tested to ASTM C136/C136M, Table 1: 3.83.
 - c. Weighted particle size: 1.72, tested with AIMS Software 2D.
 - d. Hardness: Minimum 6 on Moh's hardness scale.
 - e. Mean gradient angularity tested to ASTM C29/C29M and ASTM C33/C33M: 2000 to 3000.

2.3 ALL PEST BARRIER APPLIED TO SLAB BLOCKOUTS OR BATH TRAPS

- A. Termite Screen Barrier: For all pest barrier.
1. Product TERM Micromesh 02 Stainless Steel Screen Barrier.
 2. Material: Stainless Steel Marine Grade 316
 3. Aperture size of mesh opening: Less than 0.02 inches (0.51 mm).

2.4 TERMITE CONTROL APPLIED TO SLAB PENETRATIONS

- A. Product: TERM Termite Sealant. waterproofing sealant which also acts as a termite barrier
1. Physical properties:
 - a. Complies with ICC AC 380, Acceptance Criteria for Termite Physical Barriers.
 - b. Permeance to Moisture and Water Vapor: 0.035 grains per sq ft per hour per inch HGF tested to ASTM E96 B.
 - c. Pesticide repellency (Chlorodane, fipronil, permethrin): 0 percent penetration; Tested to ASTM F2130.
 - d. Low Temperature Flexibility tested to ASTM D146: No cracking -25 degrees F (-31.7 degrees C).

2.5 TERMITE CONTROL OF EXPOSED PERIMETER WITH PARTICLE BARRIER

- A. Product: Polyguard TERM Particle Barrier. Consists of selected quartz or granite particles which have been sorted and sized to block prevalent termite species in the project area.
1. Physical Properties:
 - a. ASTM C 136, Minimum percent retained of sieve size 7 - 14: 80 percent.
 - b. ASTM C 136, Minimum percent retained of sieve size 7 - 16: 90 percent.
 - c. Hardness, Mohrs Hardness Scale: Greater than 6.

- d. Angularity, Graded as angular or subangular: Angular or subangular.

2.6 ACCESSORIES

- A. Liquid Adhesives: Polyguard 650 WB or Polyguard 343 Spray Adhesive.

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. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION - BATH TRAP PARTICLE BARRIER TREATMENT

- A. Install in accordance with manufacturer's instructions.
- B. Install after completion of rough plumbing.
- C. Remove all wood form material from walls of bath trap.
- D. If bath trap opening is less than 4 inches (102 mm) deep, remove sufficient earth to obtain 4 inch (102 mm) depth.
- E. Prepare vertical wall surface of bath trap; remove mud, dirt, and residual concrete. Clean wall surfaces.
- F. Clean and wire brush piping.
- G. Fill bath trap with particle barrier to level of top of slab, minimum 4 inch (102 mm) thickness.

3.4 INSTALLATION – ALL PEST BATH TRAP

- A. If bath trap particle barrier is specified, it needs to be installed prior to the all pest bath trap.
- B. Install in accordance with manufacturer's instructions.
- C. Ensure that concrete is clean, smooth, and dry.
- D. Pre-cut stainless steel wire screen to be 4 inch (102 mm) wider than the diameter of the bath trap. Mark the perimeter.
 1. Pre-cut a hole in the wire screen. The hole should be the same size as the plumbing penetration in the bath trap, and in the same location. Fit the screen over the plumbing penetration and mark the perimeter of the outside edges of the wire screen. Remove the wire screen.
 2. Apply termite sealant over the perimeter marking. Tool sealant to a minimum 1 inch (25 mm) width, extending to the outside of the perimeter markings.
 3. Place the cut screen from over the penetration and in line with the sealant applied.
 4. Embed the screen into the sealant.
- E. Apply termite sealant over the outside edges of the screen, and tool it so there is a complete seal around the perimeter of the screen.

- F. Apply sealant barrier completely around penetration and tool at the screen interface with 3/4 inch face all the way around the penetration. Ensure that there are no gaps, openings, or crevices anywhere around penetration.

3.5 INSTALLATION - SLAB PENETRATION SEALANT BARRIER TREATMENT

- A. Install in accordance with manufacturer's instructions.
- B. Ensure that concrete is clean, smooth, dry, and free of excess concrete.
- C. If a plastic sleeve has been placed over the penetration to prevent the metal from contact with the concrete poured around it, the protective sleeves should be cut off at the level of the top of the slab.
- D. If sill has been installed, cut out sill plate to form rectangular opening with minimum 1 inch (25 mm) clearance between penetrations and front, back, and sides of sill opening.
- E. Sand or wire brush pipe penetration, then wipe clean.
- F. Prime pipe penetration and 2 inch (51 mm) radius on concrete with liquid adhesive or spray adhesive.
- G. Apply sealant barrier completely around penetrations with 3/4 inch (19 mm) face at interfaces of pipe and horizontal concrete. Ensure that there are no gaps, openings, or crevices anywhere around penetration.
- H. Tool the sealant all around the penetration with a small spatula.

3.6 INSTALLATION OF PERIMETER BARRIER APPLICATION

- A. General:
 - 1. Polyguard TERM Particle Barrier is to be installed only by a pest management professional who is:
 - a. Licensed to install pest control products within the jurisdiction where the project is located.
 - b. Trained by Polyguard Products in the proper installation of the TERM Particle Barrier.
 - 2. Compliance: Comply with requirements as listed on the Polyguard TERM Particle Barrier U.S. EPA label, guide specification, and product data sheet.
- B. Perimeter Particle Barrier Application:
 - 1. TERM Particle Barrier should be installed on the outside perimeter of the structure wherever vertical concrete is in contact with earth.
 - 2. TERM Particle Barrier perimeter treatment should be installed after completion of all landscaping activities. Landscaping can cause breaching of the particle barrier.
 - 3. Dig a triangular, wedge shaped trench around the entire perimeter of the structure.
 - a. Approximate wedge dimensions should be 4 inches(102 mm) across away from the wall, 5 inches (127 mm) down the wall, and 6.4 inches (163 mm) along the slope (hypotenuse) of the triangle.
 - 4. Clean the vertical face of the concrete so the surface will be completely clean.
 - 5. Hose any residual dirt from the vertical face if necessary.
 - 6. Fill the trench to grade level with Polyguard TERM Particle Barrier.
 - 7. TERM Particle Barrier can be protected from disruption by a concrete mow strip. The concrete mow strip should be tied into the vertical concrete using rebar.

3.7 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.

3.8 PROTECTION

- A. Protect products in accordance with the manufacturers recommendations.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION