

Polyguard Particle Barrier for Termites

For new construction

For existing structures

Patent Pending



DESCRIPTION

The Polyguard Particle Barrier was developed by Bryan Springer, a Galveston, TX based pest management professional, in 2005. Springer had the barrier tested at Texas A&M's Department of Urban and Structural Entomology. (See the test at <http://www.polyguardbarriers.com/Sub-sites/TechRef/Texas%20AM%20Particles%20Report.pdf>)

Springer installed test installations on the outside perimeter of foundations at a number of homes and one commercial structure. All of the structures were termite infested. All were in areas around Galveston and Houston where both *Reticuletermes flavipes* and *Coptotermes formosanus* termites are a serious problem. In a December 2013 audit of all of these sites, none showed evidence that termites had breached the particle barrier. A summary of the test installations is on the back of this page.

Particle termite barriers have been widely and successfully used in other parts of the world since the 1980's. However they have never been made available in the mainland United States.

The principle behind particle barriers is simple. According to the University of Hawaii website;

"There are three basic requirements for a particulate barrier to be effective. First the granules must be small enough to pack well so there aren't any gaps the termites can squeeze through. At the same time, the granules must be big and heavy enough that the termites can't pick them up and move them. Third, the granules must be too hard for the termites to chew."

http://www2.hawaii.edu/~entomol/research/r_btb.htm

Polyguard's particle barrier consists of quartz particulates exactly sized to block both the *Reticuletermes flavipes* and *Coptotermes formosanus* species.

Product Data Sheet

ADVANTAGES

The Polyguard Particle Barrier is an insect exclusion product. Used around the perimeter of the building, it can significantly reduce the quantity of termiticides needed to protect the structure.

Polyguard has registered our barrier products with the EPA, who along with state agencies regulates pesticides. However, Polyguard's barriers are classified by the EPA as "devices", since they contain no toxic components.

Termites trying to get into a structure are unable to penetrate the Polyguard Particle Barrier. Also important, in the case of the *Reticuletermes flavipes* species, is that the insects are unable to get out of a structure which they previously penetrated. In the majority of infested structures, there is not sufficient moisture in the building for *Reticuletermes flavipes*, so they have to come out to obtain moisture.

The picture below shows the end of a *Reticuletermes flavipes* mud tube. The *Reticuletermes flavipes* came out of the home at the foot of the corner of the foundation (see light brown mud tube in the crack). The termites were unable to penetrate the barrier, so they built a new mud tube horizontally, searching for a place where they could breach the barrier. The finger points to the end of the mud tube. At that point the *Reticuletermes flavipes* were dissicated and died from lack of moisture.



*Pointing to a place where *Reticuletermes flavipes* were blocked from leaving a structure to replenish moisture*

Polyguard Particle Barrier : Galveston / Houston Area Test Sites						
Site	Installation Date		Location		Approximate Age in years	Construction
	Month	Year	City	Street		
1	June	2005	Texas City	19th Ave	50	wood frame
2	June	2005	Texas City	19th Ave	50	wood frame
3	June	2005	Bacliff	Chasewood	20	brick masonry
4	May	2005	Santa Fe	Abar	25	brick masonry
5	July	2005	Galveston	Tiki	30	wood frame
6	July	2005	Texas City	Twelve Oaks	30	brick masonry
7	August	2005	Texas City	20th St.	50	wood frame
8	November	2005	Dickinson	Gladebridge	30	brick masonry
9	November	2005	Santa Fe	Mt. Vernon	30	brick masonry
10	January	2005	Texas City	6th Ave	45	brick masonry
11	March	2005	Santa Fe	28th St	25	brick masonry
12	March	2005	Santa Fe	28th St	25	brick masonry
13	August	2005	Texas City	20th St.	50	wood frame
14	April	2005	Texas City	9th Ave	50	cinder block
15	April	2005	Houston	Modiste	50	brick masonry

- All sites had termite infestation at the time of installation
- None of the sites had termite infestation as of December 2013

USES OF THE POLYGUARD PARTICLE BARRIER

The uses listed below are for either new construction, or on existing structures.

1. Properly installed around the perimeter of a structure, the barrier will block entry of termites to the home, and exit of termites which are inside the home.
2. As a termite barrier at bath traps.
3. As a termite barrier where above slab plumbing or electrical penetrations emerge.

INSTRUCTIONS FOR USE AS A PERIMETER TRENCH AROUND STRUCTURE

(Installation Video:

<https://www.youtube.com/watch?v=IRGQ7fsnXUk>)

1. Dig a trench, minimum 4" wide and 4" deep around the entire perimeter of the structure.
2. Clean the vertical face of the concrete so that the surface will be completely clean. A quick way to do this is with a hosing of the exposed area of the wall.
3. Fill the trench to the grade level with Polyguard Particle Barrier.

Inspection and Repairs

Note that regular inspection and repair of the Polyguard Particle Barrier is necessary. The following are some things which can compromise the barrier:

- a. Cats using the barrier as litter.
- b. Dogs digging up the barrier.
- c. Landscaping or construction activities which displace the barrier or cover it with dirt.
- d. Overgrowth by vegetation
- e. Debris or mulch.

INSTRUCTIONS FOR USE AS A BATH TRAP BARRIER

1. Remove wood form materials from the concrete.
2. Remove any concrete debris in the bath trap.
3. Dig out bath trap so it is 4" deep all throughout.
4. Clean concrete sides in the bath trap. Wire brush if necessary.
5. Fill bath trap with TERM Particle Barrier to level with top of bath trap.

Under normal circumstances this bath trap installation should not require maintenance.



Particle Barrier used to block termites from entry at bath trap

INSTRUCTIONS FOR USE AS AN ABOVE SLAB PENETRATION BARRIER

1. Create sill plate cutout in area of penetrations, and provide necessary reinforcement to restore strength to sill plate.
2. Precut TERM Penetration Collar to proper length ((2 X depth of sill plate plus 2x length of sill plate plus 2")/
3. Fold TERM Penetration Collar to fit snugly inside the sill

plate cutout.

4. Staple TERM Penetration Collar to end of sill cutout. It should be firmly in place and snug with the concrete.
5. Fill the TERM Penetration Collar to the top with TERM Particle Barrier.

Under normal circumstances this penetration barrier installation should not require maintenance.



TERM Particle Barrier and Penetration Collar used to block termites from entry through plumbing penetrations

PHYSICAL PROPERTIES

Property	Typical Property
Fineness Modulus	3.83
Weighted Particle Size	1.72
Hardness – Mohrs Hardness Scale	> 6

PACKAGING INFORMATION

Product	Unit of Measure	Weight / Unit
Polyguard TERM Particle Barrier	Bag	50 lb.

Material Storage: Barrier and accessories should be unloaded and stored carefully. Do not stack barrier material higher than 5' (1.5m) vertically, nor double stack pallets. Cartons should be stored on pallets and covered to prevent water damage.

LIMITATIONS

Polyguard TERM™ Particle Barrier is not suitable for application to crawl spaces under existing structures. The reason for this is the extreme difficulty of making a proper installation, and of checking for correct installation and maintenance.

The information in this data sheet is designed to be helpful to the reader. It is based on experience and information considered to be accurate and true. Readers should carefully consider and verify the information with investigation of any areas with uncertainty. *Polyguard* does not warrant the results to be obtained. Additionally, please read everything here in conjunction with *Polyguard's* conditions of sale, which are applicable to everything supplied by us. No statement here is intended for any use which would infringe any patent or copyright.

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