

## TRM Particle Barrier

Termite Particle Barrier

### MANUFACTURER

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### PRODUCT DESCRIPTION

#### Basic Uses

TRM Particle Barrier can protect several points on the structure from termite entry.

The use of particle barriers to block termite entry has been known since the 1950's. The concept was field tested by Ebeling, University of California, in 1956. Significant development work was done by Yamamoto, University of Hawaii in the 1980's.

Beginning in the 1980's, commercial application of stone particle barriers around the Pacific Rim.

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

*"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."*

### PRODUCT FEATURES

- Termite exclusion product at only 4" in depth and width needed.
- Reduces the quantity of termiticides needed during the life of the structure.
- Proven technology since 1950s in Hawaii, Australia, and around the Pacific Rim.
- Made from quartz particulates exactly sized (8 - 16 mesh), shaped, weighted to prevent subterranean termites from passing through.
- Most common applications are around exposed vertical concrete slabs, concrete piers, and filling bath traps or other concrete leave-outs.
- When properly installed and maintained, provides 100% efficacy.
- Maintenance is required after installation, as product needs to be visually inspected for any disruptions or voids.
- Pesticide free and safe around pets, children, etc.

### COMPOSITION & MATERIALS

Polyguard's TRM Particle Barrier consists of sub-angular or angular quartz particulates with mesh sizes between 8 and 16. Grit sizes 8-16 are proven by multiple researchers for decades as necessary to block both the Formosan and the native American species.

In the mainland U.S., extensive work on particle barriers has been done at the University of Florida, Texas A&M University, and others.

### REFERENCES

The Green Building Certification Institute (GBCI) has approved the use of the TRM Particle Barrier as eligible for credit when used as a physical termite barrier for the LEED

for Homes v4 Sustainable Sites Credit: Nontoxic Pest Control.

There are several ways in which LEED credits might be earned by incorporating TRM Barrier System components into the structure.

Increasingly, LEED has incorporated Integrated Pest Management (IPM) into standards.

LEED calls for IPM protocols to *"minimize pest problems and exposure to pesticides"*.

A key IPM element is *"Non-chemical pest preventative measures.....designed into the structure..."*. TRM Barriers are non-chemical pest preventative measures.

LEED rating systems for homes incorporate (SSC5) *"Non-toxic pest control"*. Two components found in the TRM Barrier System are mentioned; they are steel mesh and sand barriers. Both are used as termite barriers.

TRM Sealant / membranes are not mentioned, as they are only now entering the field for sustainable construction alternatives.

The incorporation of TRM Sealant / membranes into the building envelope should be a strong candidate for Innovation credit.

Finally, if the project site is former agriculture land with residual pesticide contamination, TRM Barriers may qualify under LEED IAQ Credit 5 - Indoor Chemical and Pollutant Source Control (below grade toxin barrier) or SS3 - Brownfield redevelopment.

### TECHNICAL DATA

See physical properties table.

### INSTALLATION

#### TRM Particle Barrier to Protect Exposed Concrete

##### Perimeter:

- TRM Particle Barrier is installed in a wedge-shaped trench.
1. Dig a wedge-shaped trench, minimum 4-inches across the top, and 5-inches deep down the vertical concrete face. These distances are +/- 1-inch due to the difficulty of digging exactly. The trench should be installed wherever vertical concrete surfaces of the structure are exposed around the entire perimeter.
  2. For most soils, a trenching tool designed to create a trench of the correct depth and width, can be used, with a significant reduction of installation effort.
  3. Clean the vertical face of the concrete so that the surface will be completely clean of mud and debris. A quick way to do this is with a hosing of the exposed area of the wall.
  4. Fill the trench to the grade level with TRM Particle Barrier.

The perimeter particle barrier should be inspected (and repaired if needed) by a licensed pest management professional at least once a year, or more frequently if the PMP judges it to be necessary.

Link to explanation video: [TRM Sustainable Pest Barriers - Particle Barrier - Non-Chemical Termite Barrier - YouTube](#)

## INSTALLATION

### TRM Bath Trap:

First is the TRM Bath Trap, which stops every type of pest, including snakes, fire ants, rodents, moles, and cockroaches.

TRM Bath Trap is suitable for new construction, but generally not in existing construction due to difficulties in access to trap.

The TRM Micromesh screen, with its tiny (0.02") apertures, can block the miniscule termites, and its strong stainless steel wire blocks everything else.

If you want "belt and suspenders" protection, you can install TRM Particle Barrier in the trap area before installing the screen.

Link to installation video: [TRM Non-Chemical Termite Barrier – TRM Bath Trap Kit - Polyguard - YouTube](#)

Next is the TRM Particle Barrier, which is suitable for existing or new construction.

With particles only, termites are blocked. We haven't found any other pest which particles keep out. (We expected at least fire ants would be blocked, but they got through.)

Link to installation video: [TRM Non-Chemical Termite Barrier – Physical Exclusion at Bath Traps Using Stone Particles - YouTube](#)

Please visit our website [www.polyguard.com](http://www.polyguard.com) for the TRM Bath Trap Kit data sheet.

### LIMITATIONS

When properly installed, TRM System products will physically block termites from entering the structure at the protected area but will not block termites from entering at other points on the structure. Installing more TRM components blocks more termite entry points but does not guarantee protection in areas the TRM products are not applied.

Polyguard's TRM System has been extensively tested, both in the laboratory and in long term field trials at multiple sites, against *Reticulitermes flavipes* and *Coptotermes formosanus* subterranean termites, which can be said to be the most voracious insects in the United States measured in terms of property damage.

There are numerous other termite species worldwide, not known to be present in the United States, which are equally or more voracious than the U.S. species which were tested.

A limited amount of testing outside of the United States has been done or is in progress. Contact Polyguard for up-to-date information about non-domestic testing.

Purchaser is responsible for complying with all applicable federal, state, or local laws and regulations covering use of the product, including waste disposal.

### STORAGE

All Polyguard products must be handled in a safe manner. TRM Particle Barrier itself, as a quartz stone product, does not contain any chemicals. However, if installing TRM Bath Trap, safety considerations include cutting hazard from the edges of stainless-steel mesh, as well as vapors from TRM Sealant which contains solvents. These deserve special attention to safety since vapors are both flammable and harmful if inhaled. Read both the product label and the Safety Data Sheet (SDS) before use.

### SAFETY

SDS documents for all Polyguard products can be obtained at our website [www.polyguard.com](http://www.polyguard.com). Call Polyguard Products, Inc. at (214) 515-5000 with questions.

### WARRANTY

We, the manufacturer, warrant 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. We will replace at no charge product proved to be defective 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.

### TECHNICAL SERVICES

Technical assistance, information and Polyguard's products are available through a nationwide network of distributors and architectural representatives, or contact Polyguard Products, Inc.  
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PROPERTY	TEST METHOD	TYPICAL VALUE
FINENESS MODULUS	-	3.83
MINIMUM % RETAINED OF SIEVE SIZE 8 - 14	ASTM D451	90%
% OF VOID SPACE (calculated using water displacement)	-	1.72%
HARDNESS	Mohs Hardness Scale	> 6
ANGULARITY	Grading	Angular or Subangular

PACKAGING	PART NUMBER	UNIT SIZE
TRM PARTICLE BARRIER	TERMPART50TX	50 lb Bag
<b>TRM PARTICLE BARRIER Accessories:</b>		
TRM MICROMESH	TERMMICROMESH02 2X4	0.018" Aperture 2' x 4'
TRM SEALANT - Quart	TERMSEAL Q	4 – 1 qt/ctn
TRM SEALANT - Gallon	TERMSEAL GALLON	4 – 1 gal/ctn

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