TERM® Water|Termite Barrier

Special Data Sheet - ICF Foundations

International Code Council
Termite Barrier System
Report ESR-3632

Link to ICC ESR-3632

Product Data Sheet

EPA Establishment No. 89537-TX-1

TERM® Foundation Barrier is used to protect foam plastic insulation, including stay-in-place insulating concrete forms (ICF) installed in applications noted in the 2015 IBC Section 2603.8 (2012 Section 2603.9 or 2009 Section 2603.8) or IRC Section R318.4 and complies with Exception 2 of the referenced Code Sections.

DESCRIPTION

Since 2002, hundreds of ICF foundations across the US have been protected with *TERM Water|Termite Barrier. TERM* excludes both water and termites. *TERM Water|Termite Barrier* is a "peel and stick" barrier membrane used on concrete or ICF (Insulated Concrete Form) foundation walls.

Polyguard foundation waterproofing membranes have been used worldwide on both residential and commercial construction since 1970. Research and testing of termite exclusion, in cooperation with scientists at Texas A&M's Urban and Structural Entomology Laboratory, began in 1999. Today *TERM Water|Termite Barrier* is a key part of a whole structure termite exclusion system. Today *TERM Barriers* represent a building envelope which stops leaks of not just water and energy, but also "leaks" of insects.

TERM Water|Termite Barrier is like a termite shield, in that it physically blocks termites. But it is different from a termite shield in that it covers a large area, and waterproofs as well.

ADVANTAGES

TERM Water|Termite Barrier is a non-structural barrier which when properly constructed as part of the building envelope, blocks both termites and water. Documentation can be found at: Link to TERM Barrier Development TERM Water|Termite Barrier does not contain pesticides and is classified by the EPA as a physical barrier.

TERM® vs TERMITE SHIELDS

TERM Barriers and termite shields are similar, in that both physically block termites. But *TERM* is different from termite shields - in that *TERM* blocks almost every entry point that a subterranean termite could find.

Plus, *TERM* waterproofs buildings.

DESCRIPTION OF COMPONENTS

TERM Water|Termite Barrier is a strong, pliable, self-adhesive sheet made of a 4-mil high density polyethylene film integrally bonded to 64 mils of barrier sealant. Total thickness is 68 mils.

TERM Water|Termite Barrier is formulated for low temperature application down to 30°F *(-1°C) TERM Water|Termite Barrier* is wound on a disposable treated release sheet which can be peeled away to expose the adhesive face. Standard roll size is 39.4" x 61' *(1.0m x 18.6m).*

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Polyguard Shur-Tac Water-Base Liquid Adhesive is used for ICF foundation applications. Note that, *Polyguard 650LT Liquid Adhesive,* with its solvent component, cannot be used on ICF, as it would damage the ICF.

Polyguard Detail Sealant ensures adhesion to ICF and concrete in difficult areas to seal. *Polyguard Detail sealant* is a solvent free, non-isocyanate adhesive sealant which is low VOC/HAPS free. It is formulated to be compatible with the *Polyguard TERM* barriers.

Polyguard 650 Mastic is used for sealing of cuts and terminations.

Polyguard LowFlow and *Polyguard PolyFlow 15P* both provide physical protection and drainage to the wall. *LowFlow* is made from 100% recycled materials

REFERENCES

LEED

Click here to view LEED v4 Documentation.

National Green Building Standard:

TERM Water|Termite Barrier aligns with NGBS practices 602.1.2 (*foundation waterproofing*), 602.1.5 (*termite barrier*), and 602.1.6 (*termite resistant materials)* Like almost all components in the TERM Barrier System, the multifunction *TERM Water|Termite Barrier* allows you to achieve points in several practices with a single material.

INSTALLATION

Safety

All *Polyguard* products must be handled in a safe manner. Some products (some mastics or primers) contain solvents, and these deserve special attention to safety since their vapors are both flammable and harmful if inhaled. Read both the product label and the Safety Data Sheet (SDS) before use. SDS sheets can be obtained on our website Link to SDS's. Call *Polyguard* at 214-515-5000 if you have any questions. Health Product Declaration information is also available Link to HPD Info.

Preparatory Work

Apply *TERM Barrier* only in fair weather, when temperatures are above freezing and rising.

Clean all ICF surfaces to remove dust and dirt. ICF and footer should be completely dry before application

Cracks of more than 1/8" *(3.0 mm)* should be properly sealed in accordance to sealant manufacturer's instruction and pre-stripped with a 12" *(305 mm)* wide strip of *TERM Water|Termite Barrier* or *Detail Sealant.*

Cold joints, T-Joints and evident working cracks in concrete should be properly sealed with joint fillers, waterstop or sealant. A 12" *(305 mm)* strip should be placed directly over and centered in the crack with the final applied barrier providing double strength at the area of movement.

Detailing prior to application of TERM Water|Termite Barrier.

Apply fillets formed by *Detail Sealant* at the base of foundation walls and footings. DO NOT use wood or fiber cant strips, or *Polyguard 650 Mastic*. Fillets of *Detail Sealant* should be a 3/4" *(19mm)* face and extend 6" *(152mm)* vertically and horizontally, 90 mils *(2.286 mm).*

Cover all corners, joints and the base of the foundation wall and footing using a 12" *(305 mm)* wide strip of barrier centered along the axis. Press or roll firmly to achieve a complete seal. Apply TERM Water|Termite Barrier extending onto the face of the footer. Pretreat inside corners with *Detail Sealant* 6" *(152 mm)* in each direction from corners, and form a fillet with *Detail Sealant* and apply a 12" *(305 mm)* strip of barrier centered on the corners.

Detail Sealant may be substituted for the initial layer of sheet barrier on protrusions by applying a 90 mil *(2.286 mm)* thick layer from the protrusion out and extending 6" *(152 mm)* underneath sheet barrier. Apply *Detail Sealant* vertically to be level with height of wearing surface. Flash projections with a second ply of barrier for 6" *(152 mm)* from drain or projection. Seal all terminations with *Polyguard Detail Sealant or Polyguard 650 Mastic.*

Priming

Priming can be done using *Shur-Tac Water Base Liquid Adhesive*.

Stir *Liquid Adhesive* before use. *Liquid Adhesive* should be applied over the entire surface at a rate of 250-350 square feet, per gallon *(6-8.5 m^2/l).* Primed surfaces must be re-primed if barrier is not applied to the *Liquid Adhesive* within the same working day. Use brush or lamb's wool roller for application. *Shur-Tac Water Base Liquid Adhesive* can also be applied using airless or air assisted sprayer. *Liquid Adhesive* must be dry prior to application of barrier. *Liquid Adhesive* retains a tacky adhesive surface.

Primed surfaces should be immediately covered or protected to prevent contamination occurring on the *Liquid Adhesive*. Metal surfaces may require *Liquid Adhesive* to obtain bond of barrier to substrate. Field test to determine adhesion level. Surface must be free of contaminates

Sheet Barrier Application

Precutting sheets to length usually saves time.

TERM Water|Termite Barrier must be overlapped. Side laps must be a minimum of 2-1/2" *(64 mm).* Staggered end laps should be minimum 6" *(152 mm).*

When applying *TERM Water|Termite Barrier* on vertical walls, a determined effort must be made to assure complete adhesion of barrier to the primed surface. Hand roll overlap seams with a wall type narrow roller. Use heavyhand pressure while smoothing out the barrier surface, as it is applied.

It is recommended that when vertical sections of more than 8' *(2.4 M)* are to be protected, barrier should be applied in sections no longer than 8' *(2.4 M)*, starting from the lower foundation base and rising to the top with the 6" *(152 mm)* overlap, shingling down on each ply of barrier.

TERM Water|Termite Barrier should be applied down over the edge of the footing at the foundation base a minimum 6" *(152 mm)*, shingling down on each ply of barrier. The upper terminating edge of *TERM Water|Termite Barrier* applied to a vertical wall should be completed over the top of the wall. If terminated in the vertical surface, a termination bar can be used. The terminated edge should be pressed firmly with a silicone roller and protected from water with a troweled bead of *Polyguard Detail Sealant or Polyguard 650 Mastic*

Flashing and Detailing Edges

Finish vertical wall barrier on top edge under flashing or in reglet. Seal T-Joints, terminations, and all seams with a troweled bead of *Polyguard Detail Sealant or Polyguard 650 Mastic* at end of each day.

Care should be taken to obtain good adhesion between barrier used for repairs and originally applied barrier.

Inspection and Repairs

Visually inspect barrier for tears, punctures, air blisters and "fishmouths" prior to placement of drainage mat and backfilling. Make repairs by removing all damaged barrier so that only well bonded barrier remains. Re-prime any exposed concrete. After *Liquid Adhesive* is dry, apply a new sheet of barrier, extending 6" *(152 mm)* onto previously applied barrier. Slit all "fishmouths", overlap the pieces, place patch over area and roll or press in place. Puncture air blisters, expel the air, prime and cover with patch. Seal edges with *Polyguard Detail Sealant or Polyguard 650 Mastic*

Ultraviolet Protection

TERM Water|Termite Barrier can be adversely affected by ultraviolet light. The waterproofing system must be covered as soon as possible and not left exposed to sunlight for over 30 days.

Barrier left exposed on top of foundation walls or parapets should be covered with weather resistant flashing

Barrier Protection and Drainage Mat

Polyguard LowFlow or *Polyflow 15-P Drainage Protection/Drainage Mat* with built in puncture and UV protection plus drainage for vertical surfaces is required. This helps keep the structure dry, and makes it

less attractive to foraging termites. It is recommended that drainage mat be adhered to the Foundation Barrier using adhesive such as mastic, rather than using fasteners.

Drainage: Drainage systems should be designed with pipe sizes large enough to prevent water accumulation against the foundation. Perforated pipe should be covered with fabric to prevent fines or dirt from plugging perforations. Pipe should be of sufficient strength to prevent deformation due to soil weight or movement. Consideration should be given to provide drain outlets to the interior of the building when the water table level is above the base of the waterproofing barrier.

Note on footers: Not all applications have footers, or the need to cover the footer. Rule of thumb is extend waterproofing a minimum 6" past bottom of slab, or as engineer requires for specific jobsite. Check details for structural waterproofing or consult with design engineer/consultant.

Backfill

No waiting is required before backfilling. Backfill material should be dry sand or dry soil dirt as following:

- Fill material free of large dirt clods, rock, tree roots and debris.
- Backfill should be of a type readily compactable upon deposit.
- It should be placed against the drainage mat in 6" *(152mm)* to 8" *(203mm)* compacted layers to avoid vertical settlement.
- Backfill should not have high water content that would cause the soil to shrink upon drying.
- Mechanical compaction in horizontal layers should be used to achieve these results if necessary.
- Avoid sharp impact to the drainage mat when backfilling

Note on footers: Not all applications have footers, or the need to cover the footer. Rule of thumb is extend waterproofing a minimum 6" down the side of slab, or as engineer requires for specific jobsite. Check details for structural waterproofing or consult with design engineer/consultant

Material Storage: Barrier and accessories should be unloaded and stored carefully. Cartons and containers must be protected from weather, sparks, flames, excessive heat, cold and lack of ventilation. 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. For best results, barrier should be stored 50-75°F prior to application.

LIMITATIONS

Polyguard's TERM Barrier 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 are the most voracious insects in the United States in terms of property damage. Polyguard's TERM Barrier System products are part of an Integrated Pest Management (IPM) program and where local regulations require, may be

used to supplement termiticide applications.

There are numerous other termite species, not known to be present in the United States, which are equally or more voracious than the U.S. species which were tested. Limited testing outside of the United States has been done or is in progress. Contact Polyguard for up to date information about non-domestic testing.

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.

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

Contact *Polyguard Products, Inc.* for further information.

PACKAGING DATA

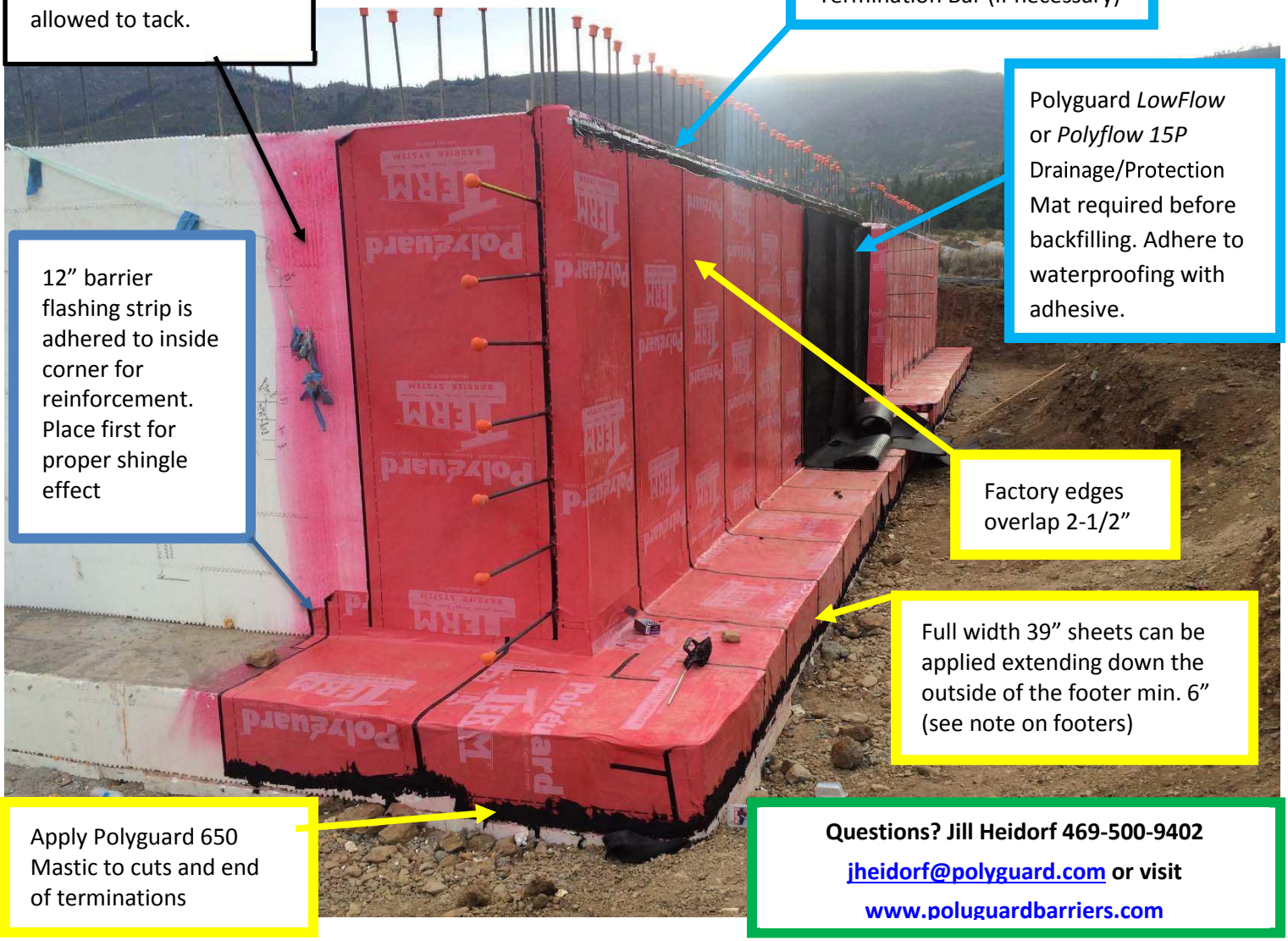
Packaging Data TERM Water|Termite Barrier				
Product	**Unit of Measure**	**Approximate Coverage**	**Weight / Unit**	**Palletization**
TERM Water|Termite Barrier 39.4" x 61' *(1.0 m x 18.6 m).*	Carton (1 roll)	200 ft2	75	30 cartons
Polyguard Shur-Tac Water Base Liquid Adhesive	5-Gal Pail *or* 4-1-Gal Pail	250 – 350 ft2/gallon	50 lb. 37 lb.	36 Pails 54 Cartons
Polyguard 650 Mastic	5-Gal Pail *or* 30 oz. tube x 12 / carton	200 LF per gallon 40 LF per tube	50 lb. 24 lb.	36 pails 25 cartons
Polyguard Detail Sealant	Carton with 12 30 oz. tubes	1/8" bead – 293 lf/tube ¼" bead – 73 lf/tube 3/8" bead – 30 lf/tube	32 lb.	25 Cartons

TERM Water|Termite Barrier -- Application over ICF below grade structure

ICF requires Polyguard Shur-Tac water based primer. Primer is rolled onto ICF surface and allowed to tack.

Apply *Polyguard 650 Mastic* at all terminations.

Termination Bar (if necessary)



Polyguard *LowFlow* or *Polyflow 15P* Drainage/Protection Mat required before backfilling. Adhere to waterproofing with adhesive.

12" barrier flashing strip is adhered to inside corner for reinforcement. Place first for proper shingle effect

Factory edges overlap 2-1/2"

Full width 39" sheets can be applied extending down the outside of the footer min. 6" (see note on footers)

Apply Polyguard 650 Mastic to cuts and end of terminations

Questions? Jill Heidorf 469-500-9402

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www.poluguardbarriers.com

PHYSICAL PROPERTY DATA

Typical Properties of TERM Water|Termite Barrier			
Property	**Test Method**	**English**	**Metric**
Color	--	Red	*Red*
Barrier Thickness	ASTM D 1000 inch *(mm)*	.068	*1.73*
Long Term Testing against Termite Penetration	ICC AC 380 Acceptance Criteria for Termite Physical Barriers	ICC ESR compliance ICC ESR-3632	ICC ESR compliance ICC ESR-3632
Elongation of Barrier Sealant – Percent Stretch Before Failure	ASTM D 412	> 1000%	*> 1000%*
Resistance to Radioactive Radon Gas	Radon Reduction Technology Laboratory % reduction in radon gas diffusion	97.1%	*97.1%*
Pesticide Repellency *(Chlordane, fipronil, permethrin)*	ASTM F 2130	0%	*0%*
Permeance to Moisture / Water Vapor	ASTM E 96-B Grains/ft2/hr/in HGF*(grains/hr/m2)*	.03	*.02*
Tensile Strength – Film Backing	ASTM D 882 PSI / *(N/mm2)*	6500	*44.82*
Tensile Strength – Barrier Composite	ASTM D 412(Modified Die C) PSI / *(N/mm2)*	325	*2.24*
Peel Adhesion	ASTM D 903 lb/in width / *(N/mm)*	17.0	*29.7*
Overlap Bond	ASTM D 1876 lb/in width / *(N/mm)*	8.0	*1.4*
Low Temperature Flexibility	ASTM D 146 180◦ bend over 1" mandrel at -25◦F*(-32◦C)*	No cracking or delamination	No cracking or delamination
Barrier Puncture Resistance	ASTM E 154 (Blunt Instrument) lb / (*N)*	50	*182*
Resistance to Hydrostatic Head	ASTM D 5385Ft / *M*	231/70.4	*70.4*