POLY-TUFF SYSTEMS INTERNATIONAL
WATERPROOFING DIVISION

T-SHIELD® BG & T-SHIELD® GC (FORMERLY TERRA-SHIELD BG)

A Single Component, Liquid Applied, Black Membrane System for Vertical Surfaces, Horizontal Surfaces, and Green Concrete

1.01 DESCRIPTION

T-Shield® BG is a single component, liquid applied, bitumen modified, coal-tar free, urethane, polyurea joint and crack-free waterproofing membrane system for vertical and horizontal surfaces. T-Shield® BG-H is designed for horizontal grade. T-Shield® BG-V is for vertical grade. T-Shield® GC-H is for green concrete – horizontal grade. T-Shield® GC-V is for green concrete – vertical grade. This products meets 100 VOC limit. Please use the correct product grade that complies with VOC regulations as per federal, state, county and city regulations/codes at the place of installation of product.

1.02 FEATURES

- Economical
- Green Concrete Grades Available for Horizontal & Vertical Apps. (T-Shield®GC-H & T-Shield® GC-V)
- Labor Saving
- Meets the Criteria of ASTM C-836 & E-96
- Resistant to Bacterial Growth
- User Friendly

1.03 TYPICAL USES

- Basements
- Between Slabs
- Bridges
- Foundation Walls
- Planters
- Shower Pans
- Tunnels
- Under Slab Plywood Waterproofing

1.04 COLOR

Black

1.05 PACKAGING

5 gallon (18.9 liter) pail
55 gallon drum, net fill 50 gallons (189 liters)
Available in both Horizontal and Vertical Grades

1.06 SURFACE PREPARATION

Refer to General and Safety Guidelines for complete information. Concrete surfaces require a medium sandpaper finish equal to or greater than an ICRI CSP #3. Surface preparation may be completed by shot blasting or the use of Poly-Tuff Profile and Etch cleaner. Peel and adhesion tests are recommended. Install a 100-200 sqft (9.30-18.58 sqm) mockup of the system to be installed and approve for actual coverage rates and functionality before proceeding.

1.07 PRIMING

Prime surface as required with Enviro-Grip™ EP#2(SC), #1 (mixture of Side-A & Side-B) or Enviro-Grip™ PUR#555 at a rate of 1 gallon per 300 sqft (0.14 liters/sqm) or 300 sqft/gallon. Apply using a brush or phenolic core roller. This will result in 3 dry mils (76 microns) of coating. Existing urethane-coated surfaces should be primed with Enviro-Grip™ PUR#555. Rough and pin-holed concrete surfaces may require more primer. Discovery of these issues is generally revealed in the mockup. See the Tech-Note Section of the PSI website. Do not allow primer to puddle; dry roll excess primer with a dry nap roller to pick up excess primer in puddles and overlaps. Priming is optional on clean plywood and concrete. Pinholed Surfaces should be filled with primer in order to prevent outgassing of the concrete and allow primer to completely dry before applying coating.

1.08 MIXING

T-Shield® BG should be thoroughly mixed using a mechanical mixer at a slow speed to ensure a homogeneous material. Take care not to allow entrapment of air into the material.

1.09 JOINTS, CRACKS, AND FLASHING

Apply T-Shield® BG or GC over all primed joints and cracks. Bridge the joints and cracks with 3" (7.66 cm) Polyester Tape. Apply a thin coat of T-Shield® BG or GC over the reinforcement tape and smooth onto the adjacent surface. Optionally, in lieu of 3 coursing laps and joints, Super-Seal™ Tape may be applied over all primed concrete at laps, joints and cracks.

Wall-to-deck perimeter flashings shall be either a minimum of 24 gauge, galvanized steel flashing or Flexi-Flashing™. Flashing should turn up the wall a minimum of 6" (15.24 cm) and turn out 4" (10.16 cm) onto the deck surface. Metal Flashings require Enviro-Grip™ EP#2. Flexi-Flashing™ must be primed with Enviro-Grip™ EP#1, #2, or PUR#5. The use of Flexi-Flashing may often replace corrosive metal flashings.

APPLICATION

2.01 APPLICATION BASICS

T-Shield® BG or GC may be applied directly with a brush, squeegee, trowel or phenolic core roller. Apply T-Shield® BG or GC evenly over the primed surface. Primer is optional on plywood and CMU.

2.02 CURING

For multiple coat applications, allow coating to cure for a minimum of 16 and a maximum of 48 hours (curing is a function of ambient

temperature and humidity) before proceeding to subsequent coats. If more than 48 hours pass between coats the surface must be reprimed.

T-Shield® BG or GC is very sensitive to heat and moisture. Higher temperatures and/or high humidity will accelerate the cure time. Use caution in thickness of application. Limit single coat thickness to 30-40 wet mils (1016-1753 microns).

2.03 EQUIPMENT CLEANUP

Equipment should be cleaned immediately after use with an environmentally-safe solvent, as permitted under local regulations.

2.04 SHELF LIFE AND STORAGE

T-Shield® BG or GC has a shelf life of 12 months from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

2.05 LIMITATIONS

- Surfaces must be dry, clean and free of foreign matter.
- Not UV stable.
- Can not withstand direct wear or abrasion.
- Containers that have been opened must be used as soon as possible.
- Do not dilute under any circumstance.
- Green concrete should be cured a minimum of 72 hours before applying green concrete coating T-Shield® GC-H (Horizontal grade) or T-Shield® GC-V (Vertical Grade).

The following conditions must not be coated with PSI deck coating systems or products:

1) On grade or below grade slabs, split slabs with buried membrane, sandwich slabs with insulation, slabs over unvented metal pan, suspended pool, swimming pool decks, or areas where hydrostatic pressure is or may be present, without the use of Enviro-Grip™ 404FC primer and asphalt surfaces, asphalt overlays without the express written consent of PSI. PSI Deck Coating is not recommended over magnesite, gypsum lightweight and where chained or studded tires may be used.

2) Concrete must exhibit 3000 psi minimum strength. An ICRI CSP 2-3 surface or greater is required for concrete surfaces to be coated.

3) New surfaces to be coated must be trowel finished in compliance with the American Concrete Institute (except that hand troweling is not required), followed by a fine hair brooming, left free of loose particles, and shall be without ridges, projections, voids and concrete droppings that would be mechanically detrimental to coating application or function. Light broom finished concrete should be power-washed before coating application.

4) Concrete cleaning (see General and Safety Guidelines). Surface preparation may be completed by shotblasting or the use of Poly-Tuff Profile and Etch (PE) cleaner. Peel and adhesion tests are recommended.

TECHNICAL DATA Based on Draw Down Film	**T-Shield® BG-H** **Horizontal**	**T-Shield® BG-V** **Vertical**	**T-Shield® GC-H** **Green Concrete Horizontal**	**T-Shield® GC-V** **Green Concrete Vertical**
Hardness, ASTM D-2240 Shore A	50 ± 5	45 ± 5	50 ± 5	45 ± 5
Tear Resistance, Die C, ASTM D-624	40 ± 20 pli (7.0 ± 3.5 kN/m)	35 ± 10 pli (6.1 ± 2 kN/m)	40 ± 20 pli (7.0 ± 3.5 kN/m)	35 ± 10 pli (6.1 ± 2 kN/m)
Tensile Strength, ASTM D-412	350 ± 50 psi (3.45 ± 0.3 MPa)	350 ± 50 psi (3.45 ± 0.3 MPa)	350 ± 50 psi (3.45 ± 0.3 MPa)	350 ± 50 psi (3.45 ± 0.3 MPa)
Total Solids by Weight, ASTM D-2369	92 ± 3%	92 ± 3%	92 ± 3%	92 ± 3%
Total Solids by Volume, ASTM D-2697	90 ± 3%	90 ± 3%	90 ± 3%	90 ± 3%
Viscosity, at 80°F (27°C)	5,000 ± 2,000 cps	40,000 ± 20,000 cps	5,000 ± 2,000 cps	40,000 ± 20,000 cps
Ultimate Elongation, ASTM D-412	300 ± 50%	300 ± 50%	300 ± 50%	300 ± 50%
Specific Gravity	1.32	1.23	1.32	1.23
Volatile Organic Compounds ASTM D-2369-81	0.83 lbs/gal (100 gm/liter)	0.83 lbs/gal (100 gm/liter)	0.83 lbs/gal (100 gm/liter)	0.83 lbs/gal (100 gm/liter)

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical and chemical properties. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the user's responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.