

## **Blome Thermcrete™ SF Trowel Applied Slurry Cementitious Polyurethane Surfacer**

### **TECHNOLOGY DESCRIPTION**

Blome Thermcrete™ is a unique renewable resource technology bio-based polyurethane concrete surfacer and floor topping that delivers superior protection and hygiene for Food, Beverage, Pharmaceutical and chemical processing and packaging environments. It is ideally suited for the protection of concrete floors, pads, curbing, trenches and sumps that are exposed to process and cleaning chemicals. Thermcrete is based on a unique environmentally sustainable formulation utilizing bio-based polyols. This formulation results in a polymer overlay with excellent chemical and moisture vapor transmission (MVT) resistance with virtually no absorption, improved adhesion and high flexibility. Blome Thermcrete provides outstanding resistance to thermal shock and mechanical abuse due to its low expansion coefficient and tough, impact resistance characteristics. Thermcrete cures quickly, offering quick turnaround with minimal downtime for maintenance and new construction applications.

### **PRODUCT DESCRIPTION**

Blome Thermcrete SF is a four component trowel applied, heavy duty seamless flooring system typically installed at 3/16" to 1/4" (4.5-6mm) thickness. Thermcrete SF exhibits very good resistance to a broad range of mineral acids including dilute nitric, sulfuric and hydrochloric. It is well suited for use in most caustic solutions, bleaches, and exposure to many organic acids, including lactic acid and dilute acetic. The material requires no primer and exhibits outstanding bond strength to properly prepared concrete. Thermcrete SF withstands heavy traffic, physical abuse and temperature excursions up to 250°F in many chemicals.

Thermcrete SF is formulated with HY-CLENE™, an industry leading proprietary natural additive to provide unparalleled resistance to Fungi growth per industry standard ASTM G-21.

### **TYPICAL USES**

Thermcrete Polyurethane Concrete Surfacer is suitable for use in a variety of concrete flooring applications including:

Food Processing Plants	Pharmaceutical Plants
Beverage and Bottling Facilities	Chemical process Plants
Wet Corn Milling Facilities	Automotive Assembly Areas
Heavy Equipment Manufacturing	Freezers and Coolers
Power Generation Facilities	Pulp & Paper Mills
Commercial Kitchens	Waste Management Facilities

## HANDLING CHARACTERISTICS

Blome Thermcrete SF is easily screeded into place at the desired thickness for floor overlay applications and then finished immediately with steel finishing trowel. Thermcrete SF can be back-rolled to bring resin to the surface and broadcast to desired non-skid texture & allowed to cure. A topcoat may be applied to provide a uniform appearance and lock in a broadcast.

## TYPICAL PROPERTIES WET

Wet Components	Four (4): Resin, Activator, Pigment & Aggregate
Wet Density	130 lbs.ft <sup>3</sup>
Mix Consistency	Wet Mortar
Pot Life, 55°F	30 minutes
Pot Life, 75°F	20 minutes
Light Traffic, 55°F	16 - 18 hours
Light Traffic, 75°F	10 - 12 hours
Heavy Traffic, 55°F	32 - 36 hours
Heavy Traffic, 75°F	20 - 24 hours
Full Cure, 55°F	7 - 10 days
Full Cure, 75°F	5 - 7 days

## TYPICAL PROPERTIES CURED

Bond Strength / Adhesion (ASTM D-4541)	400 psi (100% Concrete Failure)
Compressive Strength (ASTM C-579)	8,120 psi
Tensile Strength (ASTM C-307)	1,020 psi
Flexural Strength (ASTM C-580)	2,120 psi
Impact Strength (ASTM D-4226)	≥ 168 in-lbs.
VOC	5 g/L
Coeff. Of Thermal Expansion (ASTM C-531)	1.5 x 10 <sup>-5</sup> in/in/°F

## COLORS

Light Gray, Dark Gray, Red, Black, Tan, Black, Green, Beige, Blue, Yellow (others available)

## PACKAGING & STORAGE

Thermcrete is supplied as a four (4)-component product including a Resin, Activator, Pigment and Aggregate. Bulk units are available upon request. Standard Packaging for Thermcrete components are as follows:

SF GRADE PACKAGING	SF GRADE PACKAGING	SF GRADE PACKAGING
<b>STANDARD UNIT (3/16" = 34 ft<sup>2</sup>)</b>	<b>STANDARD UNIT (1/4" = 25.5 ft<sup>2</sup>)</b>	<b>BULK UNIT (3/16" = 11,320 ft<sup>2</sup>)</b>
7.5-lb (Gallon Can) Resin (A)	7.5-lb (Gallon Can) Resin (A)	2,500 lb (IBC Tote) Resin (A)
7.5-lb (Gallon Can) Activator (B)	7.5-lb (Gallon Can) Activator (B)	2,500 lb (IBC Tote) Activator (B)
1 x 1-lb Bag Pigment Powder (C)	1 x 1-lb Bag Pigment Powder (C)	333 x 1-lb Bag Pigment Powder (C)
1 x 51-lb Bag SF Aggregate (D)	1 x 52-lb Bag SF Aggregate (D)	333 x 51-lb Bags SF Aggregate (D)
<b>DOUBLE UNIT KIT (3/16" = 68 ft<sup>2</sup>)</b>	<b>DOUBLE UNIT KIT (1/4" = 51 ft<sup>2</sup>)</b>	<b>BULK UNIT (1/4" = 8,490 ft<sup>2</sup>)</b>
15-lb (2-Gal Pail) Resin (A)	15-lb (2-Gal Pail) Resin (A)	Consult your BLOME International Representative for recommended Pigment Powder and Aggregate quantities for BULK packaging kits.
15-lb (2-Gal Pail) Activator (B)	15-lb (2-Gal Pail) Activator (B)	
2 x 1-lb Bags Pigment Powder (C)	2 x 1-lb Bags Pigment Powder (C)	
2 x 51-lb Bags SF Aggregate (D)	2 x 52-lb Bags SF Aggregate (D)	

Bulk unit pricing is available for large projects and distribution. Shelf life for Thermcrete components is twelve (12) months. Resin must be protected from freezing during shipment and storage. Keep Thermcrete components tightly sealed in original containers until ready for use. Store components in a cool, dry place, out of direct sunlight and on pallets at temperatures between 50°F – 75°F. Protect Thermcrete Resin, Activator, Pigment and Aggregate from water and weather while in storage and on job site.

#### ESTIMATED COVERAGE

Blome Thermcrete - Standard Unit Packaging covers the following surface area at stated thicknesses:

SF Grade (0.52 cu. ft. units)      25.5 ft<sup>2</sup> @ 1/4" thickness  
SF Grade (0.52 cu. ft. units)      34 ft<sup>2</sup> @ 3/16" thickness

#### BID SPECIFICATION GUIDE

Use Blome Thermcrete SF Polyurethane Concrete Floor Surfacer as manufactured by Blome International, O'Fallon, MO.

#### JOB SITE ENVIRONMENTAL CONDITIONS

Do not install Thermcrete in direct sunlight. Blome Thermcrete must be applied while ambient temperatures are between 50°F and 80°F. Components and substrate temperatures must also be maintained in this range. For best results, store Thermcrete components below 75°F, for 24-36 hours prior to installation. Installations of Thermcrete must be protected from water and weather during placement and until cured.

#### SURFACE PREPARATION

Concrete substrates to which Blome Thermcrete will be applied should ideally be cured for a minimum of 14 days. Thermcrete may be applied after 7 days cure or when concrete reaches a minimum compressive strength of 3,500 psi to allow for proper surface preparation. Concrete cured less than 14 days, however, may lead to early curing movement, shrinkage or cracking that could reflect through the final floor topping. Minimum tensile strength of concrete must be 300 psi when tested using a Schmidt Hammer. Concrete must be dry in accordance with ASTM-4263 Plastic Sheet Test Method. Concrete surfaces must be free of all laitance, oil, curing compounds and any dust or other loose materials prior to installation of Thermcrete.

To prevent lifting or delamination, keyways (min. 5/16" W x 5/16" D) must be cut at all terminations, joints, columns, doorways, and drains.

Concrete shall be mechanically prepared to a CSP-5 or greater surface profile, meeting International Concrete Repair Institute (ICRI) technical guideline No. 03732 for coating concrete. Concrete surface irregularities, cracks, fissures, discontinuities, expansion and control joints, and terminations should be addressed with proper corrective measures prior to application of Thermcrete flooring systems. Concrete movement, shrinkage, cracking and joints will reflect through the finished Thermcrete flooring.

## SAFETY PRECAUTIONS

Thermcrete Resin, Activator, Aggregates, Pigments, and mixes of them, present various health hazards if handled improperly. Wear respirator suitable for silica dust, safety glasses with side shields, gloves and long sleeve shirts to prevent all contact with skin and eyes. After working with Thermcrete, wash thoroughly before eating, drinking, smoking or other activities.

## APPLICATION EQUIPMENT

Thermcrete is best mixed with a paddle type mortar mixer, KOL type bucket mixer, or in a pail using a drill motor driven paddle blade. BLOME recommends the use of PORTAMIX Mega-Hippo mixer or MAN-U-FAB M-61 mixer. All mixing and application equipment must be clean, dry and free of any contaminants. When mixed, Thermcrete is transferred to placement area using a clean, dry wheelbarrow or buckets. Thermcrete is screeded into place using a clean, dry screed board to reach desired thickness. When placed, Thermcrete is finished using a clean, dry, steel-finishing trowel to desired surface texture.

## MIXING AND APPLICATION

1. Agitate Resin (Part A) inside original packaging, while adding the supplied color pack, for a **minimum of 1 minute** to distribute desired color throughout.
2. Mix blended Resin (Part A) and Activator (Part B) together with a paddle mixer and blend thoroughly for a **minimum of 1 minute**.
3. Once this mixture is thoroughly blended, slowly add Pigment Powder (Part C), without dumping, to the mixer and **mix to a uniform consistency**.
4. Once this mixture is thoroughly blended, slowly add Aggregate (Part D), without dumping, to the mixer and **mix to a uniform consistency**. Do not reserve any of the aggregate (Part D), using the entire contents of the bag(s). The amount of aggregate must not be reduced as this will potentially lead to foaming or swelling during cure.
5. Mix all four (4) components slowly and thoroughly for an **additional 1-2 minutes**, making sure there are no lumps or dry pockets of powder on the paddles or in corners of mixer. During this operation, **scrape the sides and bottom of the mix container** with a flat trowel to ensure complete mixing.
6. Immediately after mixing (within 3 minutes), spread the mixed Thermcrete SF onto the floor at the desired thickness, using a cam rake or trowel. Approximately 3/16" for a 1/4" finished floor.
7. Lay abutting edges within 10 minutes to ensure a clean edge. A "wet edge" installation is imperative during large placements to avoid lines and ridges in the finished floor.

8. Evenly apply to desired thickness while trying to keep cam rake lines to a minimum. Backroll across slurry with spike roller to help settle aggregates and blend cam rake lines. Further roll with loop/texture roller perpendicular to cam rake lines over entire floor to even and settle slurry prior to broadcasting.
9. For Thermcrete SF (slurry-applied) & SL (self-leveling) systems applications, immediately **spike roll the surface** to release trapped air and provide a more uniform surface.
10. Some grades of Thermcrete allow for a broadcast of silica sand, and/or varying grades of color quartz or aluminum oxide grit into wet material for non-skid texture as indicated in Steps 11-13.
11. Broadcast to rejection specified broadcast aggregate (light-medium-coarse texture) onto the wet slurry. Do not broadcast onto the wet edge area until settling and backrolling is complete. Continue broadcasting until no wet areas remain.
12. After curing (approximately 6-8 hours to withstand foot traffic), remove all excess broadcast media and scrape floor as required
13. Apply specified topcoat to lock system and achieve desired slip resistance.

## CLEANUP

All tools, mixing equipment, gloves and application equipment should be cleaned up immediately using a citrus or biodegradable cleanser, with hot water, while material is still wet. If material begins to cure, solvent-based cleaners will be required for removal.

## WARRANTY

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. Our material data sheets and other literature are to be considered accurate and reliable, but are used as guides only. WE GIVE NO WARRANTY OR GUARANTEE, WHETHER OF MERCHANT ABILITY OR FITNESS OF PURPOSE OR OTHERWISE, AND WE ASSUME NO LIABILITY IN CONNECTION THEREWITH. We are happy to give suggestions for applications; however, the user assumes all risks and liabilities in connection therewith regardless of any suggestion, we may give. We assume no liability for consequential or incidental damages. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole option, to repayment of the purchase price of the non-conforming goods.

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Supersedes ALL