BLOME INTERNATIONAL

Surrounding You with Exceptional Protection

CHEMICAL PROOFING SYSTEMS

Blome Thermcrete™
Polyurethane Concrete Surfacer

PRODUCT DESCRIPTION

Blome Thermcrete™ is a unique renewable resource technology bio- based multiple component 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 formulation that includes environmentally sustainable bio-based polyols. This formulation results in a polymer overlay with excellent chemical and moisture resistance with virtually no absorption, improved adhesion and high flexibility. Blome Thermcrete also provides outstanding resistance to thermal shock and mechanical abuse due to its low expansion coefficient and tough, impact resistant characteristics. Thermcrete cures quickly, offering quick turnaround with minimal downtime for maintenance and new construction applications.

Thermcrete 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 withstands heavy traffic, physical abuse and temperature excursions up to 240°F in many chemicals.

TYPICAL USES

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

- Food Processing Plants
- Beverage and Bottling Facilities
- Wet Corn Milling Facilities
- Heavy Equipment Manufacturing
- Power Generation Facilities
- Pharmaceutical Plants
- Chemical process Plants
- Automotive Assembly Areas
- Freezers and Coolers
- Waste Management Facilities

HANDLING CHARACTERISTICS

Blome Thermcrete is easily screeded into place at desired thickness for floor overlay applications and then finished immediately with steel finishing trowel. Thermcrete is supplied in several grades, with varying textures and thicknesses ranging from 1/8” to 3/8”, each with specific installation methods. These grades are as follows:

Thermcrete HT - “Hard Trowel” Grade is trowelled into place at a nominal ¼” thickness, finished to desired texture & allowed to cure. Thermcrete HT can be back-rolled to bring resin to the surface and broadcast to desired non-skid texture.

Thermcrete SF - "Semi Flowable" Grade is typically spread to a nominal 3/16" thickness with a rake or trowel. The material can receive a broadcast with aggregate, without backrolling, for desired non-skid texture. This can also be top-coated with Thermcrete TC Topcoat to lock in broadcast grit. (See below)

Thermcrete SL - "Self Leveling" Grade is typically spread to a nominal 1/8" thickness with a rake, trowel or squeegee. The material can receive a broadcast with aggregate, without backrolling, for desired non-skid texture. This can also be top-coated with Thermcrete TC Topcoat to lock in broadcast grit. (See below)

Thermcrete VG - "Vertical Grade" is designed to protect vertical surfaces such as curbs, pads, trench walls, etc. This material is best installed at a 1/8" nominal thickness by trowel application.

Thermcrete TC – "Topcoat" is designed for roller application over any of the other Thermcrete grades. This material is usually applied over broadcast to lock in grit, or it is applied over the trowel applied systems to result in a uniform finish free of trowel marks or voids.

TYPICAL PROPERTIES

Wet Components:	Four (4): Resin, Activator Pigment & Aggregate
Wet density:	HT Grade - 130 lbs./ft^3 SF Grade - 123 lbs./ft^3 SL Grade – 105 lbs/ ft^3 VG Grade - 130 lbs./ft^3
Mixed consistency:	HT Grade - Wet Mortar SF Grade – Slurry SL Grade – Self Leveling VG Grade – Stiff Mortar TC Grade – Wet Slurry
Pot life: (Max Work Time)	55°F 30 minutes 77°F 20 minutes
Initial set: (Light Traffic)	55°F 16-20 hours 77°F 12-16 hours
Full Set: (Heavy Traffic)	55°F 24-36 hours 77°F 18-24 hours
Final cure (Heavy Traffic)	55°F 7-10 days 77°F 5-7 days

CURED

Bond Strength to concrete		concrete failure
Coefficient of thermal expansion (ASTM C-531)	HT Grade	1.1×10^{-5} in/in/°F
	SF Grade	1.5×10^{-5} in/in/°F
	SL Grade	2.1×10^{-5} in/in/°F
	VG Grade	1.1×10^{-5} in/in/°F
Colors		Light Gray, Dark Gray, Red, Black, Tan, Black, Green, Beige Blue, Yellow (others available)

Compressive Strength (ASTM C-579)	HT Grade	8,100 psi
	SF Grade	8,020 psi
	SL Grade	7,400 psi
	VG Grade	7,900 psi
Tensile Strength (ASTM C-307)	HT Grade	1,450 psi
	SF Grade	1,550 psi
	SL Grade	1,750 psi
	VG Grade	1,450 psi

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	SL GRADE PACKAGING	HT GRADE PACKAGING
STANDARD UNIT (3/16" = 34 ft²)	**STANDARD UNIT (1/8" = 40 ft²)**	**STANDARD UNIT (1/4" = 24 ft²)**
7.5-lb (Gallon Can) Resin (A)	7.5-lb (Gallon Can) Resin (A)	5.0-lb (Gallon Can) Resin (A)
7.5-lb (Gallon Can) Activator (B)	7.5-lb (Gallon Can) Activator (B)	5.0-lb (Gallon Can) Activator (B)
1 x 1-lb Bag Pigment Powder (C)	1 x 1-lb Bag Pigment Powder (C)	1 x 1-lb Bag Pigment Powder (C)
1 x 51-lb Bag SF Aggregate (D)	1 x 30-lb Bag SL Aggregate (D)	1 x 52-lb Bag HT Aggregate (D)
DOUBLE UNIT KIT (3/16" = 68 ft²)	**DOUBLE UNIT KIT (1/8" = 80 ft²)**	**DOUBLE UNIT KIT (1/4" = 48 ft²)**
15-lb (2-Gal Pail) Resin (A)	15-lb (2-Gal Pail) Resin (A)	10-lb (2-Gal Pail) Resin (A)
15-lb (2-Gal Pail) Activator (B)	15-lb (2-Gal Pail) Activator (B)	10-lb (2-Gal Pail) Activator (B)
2 x 1-lb Bags Pigment Powder (C)	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 30-lb Bags SL Aggregate (D)	2 x 52-lb Bags HT Aggregate (D)

BULK PACKAGING	VG GRADE PACKAGING	TC GRADE PACKAGING
BULK LIQUID UNIT	**STANDARD UNIT (1/8" = 25.5 ft²)**	**STANDARD UNIT (100-150 SF)**
2,500 lb (IBC Tote) Resin (A)	2.5-lb (Gallon Can) Resin (A)	5.0-lb (Gallon Can) Resin (A)
2,500 lb (IBC Tote) Activator (B)	2.5-lb (Gallon Can) Activator (B)	5.0-lb (Gallon Can) Activator (B)
VARIES - Pigment Powder (C)	1 x 1-lb Bag Pigment Powder (C)	1 x 1-lb Bag Pigment Powder (C)
VARIES - Aggregate (D)	1 x 28.5-lb Bag VG Aggregate (D)	1 x 6.5-lb Bag TC Aggregate (D)
	DOUBLE UNIT KIT (1/8" = 51 ft²)	**DOUBLE UNIT KIT (200-300 SF)**
Consult your BLOME International Representative for recommended Pigment Powder and Aggregate quantities for BULK packaging kits. (636) 379-9119	5.0-lb (Gallon Can) Resin (A)	10-lb (2-Gal Pail) Resin (A)
	5.0-lb (Gallon Can) Activator (B)	10-lb (2-Gal Pail) Activator (B)
	2 x 1-lb Bags Pigment Powder (C)	2 x 1-lb Bags Pigment Powder (C)
	2 x 28.5-lb Bags VG Aggregate (D)	2 x 6.5-lb Bags TC Aggregate (D)

Bulk unit pricing is available for large projects and distribution. Shelf life for Thermcrete components is nine (9) 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:

ESTIMATED COVERAGE (CONT'D)

HT Grade (0.50 cu. ft. units)	24 ft^2 @ 1/4" thickness
SF Grade (0.52 cu. ft. units)	25 ft^2 @ 1/4" thickness
SF Grade (0.52 cu. ft. units)	34 ft^2 @ 3/16" thickness
SL Grade (0.42 cu. ft. units)	27 ft^2 @ 3/16" thickness
SL Grade (0.42 cu. ft. units)	40 ft^2 @ 1/8" thickness
VG Grade (0.27 cu. ft. units)	25.5 ft^2 @ 1/8" thickness
TC Grade (17.5-lb. units)	approx.100-150 sf./unit

BID SPECIFICATION GUIDE

Use Blome Thermcrete 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 must have a minimum 14 days cure and/or have a minimum compressive strength of 3,000 psi. 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.

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 Themcrete 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. 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).
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. The amount of aggregate must not be reduced as this will potentially lead to foaming or swelling during cure.
7. Thermcrete is screeded into place at desired thickness and then finished immediately, using a steel finishing trowel to work the aggregate into place, and bring sufficient resin to the surface for required finish texture.
8. For Thermcrete SF & SL (self-leveling) applications, immediately ***spike roll the surface*** to release trapped air and provide a more uniform surface.
9. Finish lightly as screeded material will show screed and trowel marks after placement.
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.

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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