



Blome Thermcrete Polyurethane Concrete Surfacers

PRODUCT DESCRIPTION

Blome Thermcrete is a three component, polyurethane based concrete surfacer/floor topping. It is ideally suited for the protection of concrete floors, pads, curbing, trenches and sumps that are exposed to process and cleaning chemicals in the food, pharmaceutical and chemical process industries. Blome Thermcrete is based on a unique formulation that combines polyurethane and Portland cement technologies. This formulation results in a polymer overlay with excellent chemical and moisture resistance with virtually no absorption. Blome Thermcrete also has 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 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 220°F in many chemicals.

TYPICAL USES

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

Food and Beverage plants	Pharmaceutical plants
Wet Corn Milling facilities	Chemical process plants

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 1/4" thickness, finished to desired texture & allowed to cure.

Thermcrete HT-B - "Hard Trowel Broadcast" Grade is trowelled into place, much like the HT Grade at a nominal 1/4" thickness. The material can then be back-rolled to bring resin to the surface and broadcast to desired non-skid texture. Thermcrete HT-B is somewhat easier to place than the HT grade and requires less finishing.

Thermcrete SF - "Semi Flowable" Grade is typically spread to a nominal 3/16" thickness with a rake or trowel. The material can then be back-rolled to bring resin to the surface and broadcast with aggregate 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:	Three (3) Resin, Activator & Aggregate
Wet density:	HT Grade - 130 lbs./ft ³ HT-B Grade - 128 lbs./ft ³ SF Grade - 123 lbs./ft ³
Mixed consistency:	HT Grade - Mortar HT-B Grade - Wet Mortar SF Grade - Slurry
Pot life:	55°F 60 minutes 77°F 40 minutes
Initial set:	55°F 12 -16 hours 77°F 8 - 12 hours
Final cure	55°F 28 days minimum 77°F 28 days

CURED

Bond Strength to concrete	concrete failure
Coefficient of thermal expansion (ASTM C-531)	HT Grade 1.1 x 10 ⁻⁵ in/in/°F HT-B Grade 1.1 x 10 ⁻⁵ in/in/°F SF Grade 2.0 x 10 ⁻⁵ in/in/°F
Color	gray or red (others available)
Compressive Strength (ASTM C-579)	HT Grade 7,500 psi HT-B Grade 7,400 psi SF Grade 6,700 psi
Tensile Strength (ASTM C-307)	HT Grade 800 psi HT-B Grade 860 psi SF Grade 1,000 psi

PACKAGING & STORAGE

Thermcrete is supplied as a three (3)-component product, with a Resin, Activator and Aggregate. Thermcrete's components are packaged as follows:

HT Grade	
Unit Size	<u>0.6 ft³</u>
Resin (Part A)	5.8 lbs. (1 gal. can; short filled)
Activator (Part B)	5.8 lbs. (1 gal. can; short filled)
Aggregate (Part C)	66 lbs. (1 x 66 lb. bag)

HT-B Grade	
Unit Size	<u>0.55 ft³</u>
Resin (Part A)	5.8 lbs. (1 gal. can; short filled)
Activator (Part B)	5.8 lbs. (1 gal. can; short filled)
Aggregate (Part C)	55 lbs. (1 x 55 lb. bag)

SF Grade	
Unit Size	<u>0.4 ft³</u>
Resin (Part A)	5.8 lbs. (1 gal. can; short filled)
Activator (Part B)	5.8 lbs. (1 gal. can; short filled)
Aggregate (Part C)	34 lbs. (1 x 34 lb. bag)

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 – 80°F. Protect Thermcrete Resin, Activator and Aggregate from water and weather while in storage and on job site.

ESTIMATED COVERAGE

Blome Thermcrete covers the following areas at stated thicknesses:

HT Grade (0.6 cu. ft. units)	28 ft ² @ 1/4" thickness
HT-B Grade (0.5 cu. ft. units)	24 ft ² @ 1/4" thickness
SF Grade (0.4 cu. ft. units)	25 ft ² @ 3/16" thickness
VG Grade (0.4 cu. ft. units)	40 ft ² @ 1/8" thickness
TC Grade (21.6 lb. units)	approx. 200-300 s.f./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 90°F. Components and substrate temperatures must also be maintained in this range. For best results, store Thermcrete components at 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 28 day cure 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.

SAFETY PRECAUTIONS

Thermcrete Resin, Activator, Aggregates 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. Mix Resin (Part A) and Activator (Part B) together with a paddle mixer and blend thoroughly for 1 minute.
2. Once this mixture is thoroughly blended, add Aggregate (Part C) to the mixer and mix to a uniform consistency.
3. Mix all three (3) components 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.
4. The amount of aggregate must not be reduced as this will potentially lead to foaming or swelling during cure.
5. 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.
6. Finish lightly as screeded material will show screed and trowel marks after placement.
7. Some grades of Thermcrete allow for a broadcast of silica sand 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 MERCHANTABILITY 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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