



TECHNICAL DATA SHEET

STYROCRETE®

Revised November 2009

DESCRIPTION

StyroCrete® is a specially formulated, high-strength cementitious polymer coating designed for direct application to concrete, cement block, ICF wall systems, and expanded polystyrene (EPS) architectural foam shapes. It can be combined with Mar-Flex Elastomeric Additive to create a flexible, impact resistant coating, and can be applied to metal surfaces that have been primed with Mar-Flex.

ADVANTAGES

StyroCrete® is non-shrink, and can be applied up to 1/8" in one application with no sagging. It is capable of conforming to any shape with no loss of detail. It bonds securely to unpainted concrete or masonry surfaces, and when properly blended, will not delaminate from any foam shape. It sets in 30 minutes at 72° F, and is hard in 12 hours. **StyroCrete®** may be integrally colored using the **Marbelite Tint Kit** or may be painted after complete drying.

PACKAGING

StyroCrete® modified cement mix is available in 50 lb. bags. The **StyroCrete® Polymer Bonding Resin Concentrate** is available in 5 gal. pails. One 5 gal. pail of bonder will modify and yield 8 bags of cement mix. The **Mar-Flex Elastomeric Polymer Additive** is available in single gal. and 5 gal. pails.

MIXING

In a clean 5 gal. container, place 2½ qts. (liters) of **StyroCrete® Polymer Bonding Resin Concentrate** and add 5 qts. (liters) of clean water. Carefully pour the contents of the bag of **StyroCrete®** cement into the liquids, and mix well with a paddle or eggbeater mixer using a high torque, low speed hand drill until well blended. Add additional water to lower viscosity and bring the material to a sprayable consistency. Usually, 1 qt. is adequate. Add hot weather additive (**Butterscotch Retarder**) as required to prevent early setting. Use sparingly as an excess of retarder may cause the coating to sag. Normally 1-6 capfuls is sufficient for each 50 lb. mix of **StyroCrete®**.

PREPARATION

When using **StyroCrete®** on concrete surfaces, the substrate should be clean, dry, and free of dirt, grease, oil, or foreign particles which could affect adhesion. Allow new concrete to cure for 30 days at 70° F. Non-porous surfaces should be acid etched, rinsed thoroughly and allowed to dry. Old concrete should be solid and all holes, cracks, spalled areas should be filled or patched.

On EPS foam, the substrate should be free of loose particles, dirt, dust and all other contaminants.



EPS Foam panel coated with StyroCrete®

LIMITATIONS

For exterior use, apply only when ambient temperature is above 50° F. Do not use if rain is probable before the material has a chance to dry. Do not use if atmospheric conditions are foggy. Do not use if temperature exceeds 100°F.

APPLICATION

Pour the mixed material into a hopper gun and prepare to spray. Adjust air compressor from 30 psi to 60 psi depending on the type of finish desired. As a general rule, a lower viscosity mixture sprayed at a higher air pressure will produce a smoother finish. Keep the nozzle about 18" - 24" away from the surface and apply in even, light coats until the desired texture has been achieved. Too much film thickness at once may cause the coating to run or sag. Normal thickness is 1/16" to 3/32", with a heavy coat being 1/8". Let the coating fully dry for about 12 hrs. at room temperature before sealing with any water based clear sealer or paint.

For improved foam strength, apply a heavier coating, approximately 1/4", or utilize a higher density foam, 3 lb. rather than 1 lb., for example. Another method of increasing foam strength is to pre-coat with a spray polyurea, followed by a **StyroCrete®** finish coat. Replace the bonding concentrate with **Mar-Flex** and spray as usual. The polyurea coating must first be primed with a mixture of **Mar-Flex** and water (50:50 ratio) and applied by spray or brush. The primer coat must dry completely before the modified **StyroCrete®** material is applied.

Note: Do not use any solvent based paint or sealer as it may melt or distort the foam. Always use water borne paints or sealers.

SPECIFICATIONS

Test Thickness:	6.0 mm (0.236 in.)		
Test Density:	96.8 lbs./ft ³		
Thermal Conductivity: ASTM C 518-76	0.290 (W/m K)		
Thermal Resistance: ASTM C 518-76	0.12 Btu/(hr ft ² °F/ft)		
Tensile Strength: ASTM C-190			
1 Day 220 psi	7 Days	800 psi	
3 Days 475 psi	28 Days	825 psi	
Compressive Strength: ASTM C-109			
1 Day 3950 psi	7 Days	5100 psi	
3 Days 4850 psi	28 Days	5470 psi	
Fire Retardant Test UBC Std. 32-7, UL 790, ASTM E108	Class A		
Storage:	50° F- 90° F Dry		
Shelf Life:	1 yr. unopened container		

All tests were performed at 75° F. (24° C.)

EQUIPMENT CLEANUP

Lock hopper gun trigger in full open position. Run water through the hopper and allow to drain through the gun into a 5 gal. pail. Use this liquid along with sufficient polymers to start the next batch of **StyroCrete®**, or simply add enough cement to form a thick batch and allow to harden. Solidified material may be disposed of in the trash, once it is inert. Do not allow liquid polymers or residue to enter storm drain system. Adhere to all applicable local, state, and federal regulations governing the disposal of this type of product.

NOTE:

StyroCrete® will not make the foam itself hard. It is only a stone-like coating over the foam shape. The surface will be hard and you should not be able to press your finger through it when it is completely dry. For ICF construction, columns, and any exterior application, Marbelite recommends that **StyroCrete®** be sprayed at a minimum of 1/4" film thickness for maximum protection.

For additional information, or to place an order, contact our Customer Service Dept. at 800-348-3993. Orders are shipped F.O.B. from our plant in Sarasota, FL or from our warehouse in Las Vegas, NV.

CHEMICAL RESISTANCE (ASTM D2299)

*Sulfuric Acid, 10%	Unaffected
*Calcium Hydroxide, 10%	Unaffected
*Sodium Hydroxide, 10%	Unaffected
*Citric Acid, 10%	Unaffected
*Lactic Acid, 10%	Unaffected
*Gasoline	Unaffected
**Hydrochloric Acid, 10%	Unaffected
**Sodium Hydroxide, 10%	Unaffected
**Mineral Spirits	Unaffected
**Methyl Alcohol	Unaffected
**Lubricating Oil	Unaffected
***Sodium Hydroxide, 10%	Unaffected
***Citric Acid, 10%	Unaffected
***Lactic Acid, 10%	Unaffected
***Gasoline	Unaffected

*Immersion time - 5 minutes

** Contact time - 15 minutes

*** Immersion time - 7 hours

COVERAGE (50 lb. bag of mixed material will cover)

100 sq. ft. @ 1/16" thickness
75 sq. ft. @ 3/32" thickness
50 sq. ft. @ 1/8" thickness
25 sq. ft. @ 1/4" thickness

SAFETY PRECAUTIONS
USE WITH ADEQUATE VENTILATION.
WASH WITH SOAP AND WATER.
CONSULT MATERIAL SAFETY DATA SHEETS
BEFORE USING.

LIMITATION OF LIABILITY

Marbelite International Corp, "Seller" warrants that if any goods supplied prove to be defective in workmanship or material, that Seller shall replace them or refund their purchase price. This warranty is made in lieu of any and all other warranties expressed or implied. Before application, the User shall determine the suitability of the product for its intended use and User assumes all risks and liabilities whatsoever in connection therewith. Under no circumstances shall the Seller be liable for incidental, consequential, or other damages for alleged negligence, breach of warranty, or strict liability arising out of use or handling of this product. The sole liability of Seller for any claim arising out of the use or sale of this product shall be for the User's purchase price.

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