

PRODUCTNAME

Gem-Cote® EP ST

Ep oxy Floor and Pro tec tive Coating

MANUFACTURER

Gemite® Products Inc.

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FEATURES

- Waterproofs
- Hard and tough
- Excellent adhesion and durability
- Easy to apply
- Crack resistant
- Superior water ponding resistance
- UV light resistant
- High abrasion resistance
- High chemical resistance
- High Resistance to Hydraulic Fluids

PRODUCT DESCRIPTION

Basic Use

Gem-Cote EP ST is applied as a thick coating to protect concrete and other floor surfaces against chemical attack and is designed for exterior and interior applications. *Gem-Cote EP ST* is also used in water proofing and chemical protection of concrete, masonry and other surfaces. Typical applications include subgrade, negative side water proofing of concrete base ments, eliminating the need for costly excavation and exterior water proofing. *Gem-Cote EP ST* is also used for negative or positive side water proofing of concrete block walls, water reservoirs and foundations.

Composition and Materials

Gem-Cote EP ST is a two component epoxy. It provides a thin, abrasion resistant, water proofing, chemically resistant coating. The typical thickness varies between 0.25-0.50 mm (0.010" to 0.020"). *Gem-Cote EP ST* bonds well to clean, sound and dry concrete, wood, metal and other clean substrates. By adding dry silica sand aggregate, the *Gem-Cote EP ST* can be extended to form an epoxy mortar used for thicker layers and concrete patching. In combination with glass reinforcement fabric a high elongation and toughness is achieved to provide a crack spanning layer in sealing of moving substrate cracks.

Limitations

Do not apply *Gem-Cote EP ST* when the temperature is expected to go below 5°C (45°F) within 24 hours or when rain is imminent. Do not apply over damp surfaces. Consult the manufacturer for application over previously treated substrate.



The Advanced Materials Centre

Health and Safety

Gem-Cote EP ST is flammable. If contact with skin occurs, wash with water. Harmful if digested. Keep the product out of reach of children. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.

Finishes and Colors

Gem-Cote EP ST can be used as smooth or silica sand filled, textured finish. Different application techniques will result in different appearance. *Gem-Cote EP ST* is available in clear, concrete gray, tile red, forest green and marine blue Colors. Other Colors are available on request. Every effort is made to fill each order using the same batch number, but different batch numbers of the same color are occasionally used to complete an order. It is the sole responsibility of the applicator to make certain that only one batch number is used on any one area. Different batch numbers can not be used in the same area unless they are mixed ("boxed") together to ensure total color uniformity.

Packaging

Gem-Cote EP ST is packaged as a two component kit. Component A consists of a 4 L (1.0 USG) can and Component B in 1 L (1 quart) can. The weight of the *Gem-Cote EP ST* kit is 5 kg (11 lb).

Yield

Gem-Cote EP ST yields 4.2 L (0.15 ft³) and will cover approximately 4 m² @ 0.25 mm per L (160 ft² @ 10 mils per USG) per one (1) coat. Mixing *Gem-Cote EP ST* with equal volume of silica sand will approximately double the coverage for the same thickness of application. The coverage's are only given as guide line and depend greatly on the roughness and porosity of the substrate, thickness of the application and application method used. Carry out field application to determine the exact material quantity requirements.

Storage and Transportation

Shelf life of materials in unopened pails is two years. Store in temperatures above 4°C (40°F). Packaged 100 kits per pallet.

TECHNICAL DATA

Tensile Strength	7,000- 8,000 psi	48.27- 55.17 MPa
Flexural Strength	12,000- 15,000 psi	82.75-103.45 MPa
Modulus of Elasticity	3.6-3.9*10 ⁵ psi	2.48-2.69*10 ⁵ MPa
Elongation	6-8%	
Barcol Hardness (unfilled system)	25-30	
Pot Life at 25°C (77°F)	50-60 min	
Heat Distortion Temperature	140-145°F	60-63°C

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03004 Concrete Sealers
09780 Floor Treatment

Water Absorption	
24 hrs at 25°C (77°F)	0.1-0.2 %
2 hrs at 100°C (212°F)	0.9-1.0%

Chemical Resistance;

10% solution sulphuric acid or 10% sodium hydroxide at 70°F (21°C)/30 min

Excellent resistance in both environments; no swelling, pitting or discoloring

Note: additional chemical resistance data is available on request.

INSTALLATION

Current Guide Specification and Application Instructions contain additional information specific to each application and must be followed.

Surface Preparation

Remove all loose particles, clean off all grease, laitance, dirt and efflorescence by shot blasting. Dry the surface.

Mixing

Place the smaller component B (hardener) into a larger component A (epoxy resin) and mix thoroughly. Allow the mixture to sit for 15 minutes before using. Once mixed, use all the materials. The pot life is approximately 1 hour. When extending with silica sand, use equal volume parts of dry silica sand, mesh 30 to 50, and *Gem-Cote EP ST* resin mixture to prepare the epoxy resin mortar.

Application

Chemical Protection of the Concrete Floors and Other Surfaces.

The surface must be thoroughly cleaned and dry. Weak and dusty surfaces will require an *Gem-Cote EP ST Primer* before application of the *Gem-Cote EP ST*. Apply two coats of *Gem-Cote EP ST* by brush or roller to build up a minimum thickness of 0.5 mm (0.020"). Apply the second after the first coat dries. When applying *Gem-Cote EP ST* to concrete slab on grade, contact Technical Service of Gemite Products Inc. for advice. Application of *Gem-Cote EP ST* over large areas of concrete slab with a high water vapor transfer from underneath the slab, could result in debonding failure of the *Gem-Cote EP ST* layer. The surface to be coated must be clean. Remove all dirt, efflorescence, loose particles, paint, cement scaling and other foreign matter which can interfere with the adhesion of the coating. Use shot-blast, power brush, water blast or sand blast as required.

Waterproofing Negative (Interior) Side

Locate the area of the leakage. This is most prevalent at cold joints, where wall and floor or wall and ceiling join. The treatment may be limited to area of leakage, but to prevent the leakage from moving to other areas, it is recommended the *Gem-Cote EP ST* be applied to full wall area. The surface must be reasonably dry. The best results are achieved with the absolutely dry surfaces. If necessary, use space heater. The static cracks must be routed out and filled with the *Gem-Cote EP ST* mortar, an equal volume mixture of *Gem-Cote EP ST* and silica sand. When dealing with dynamic (moving cracks), reinforce the *Gem-Cote EP ST* with glass reinforcing fabric, supplied by Gemite Products, over the crack. When the repaired areas contain a large number of cracks, place the reinforcing fabric

throughout the entire *Gem-Cote EP ST* layer. Use paint brush for a heavy coat application of *Gem-Cote EP ST*. At wall or ceiling joints apply 6 inches either side of the joint.

Curing

Gem-Cote EP ST will cure sufficiently 18 to 24 hours depending on temperature.

Clean up

Clean tools and equipment immediately after use with Xylol. For dry material use MEK or Xylol.

AVAILABILITY AND COST

Available worldwide. Contact Gemite for the name of the nearest Representative/Distributor and pricing information. When ordering specify the finish, smooth or textured, and color. When ordering a custom color, the color suitability and pricing must be established by Gemite before order can be processed.

MAINTENANCE

Some maintenance may be required on traffic surfaces, depending upon the severity of the traffic and the type of chemical exposure.

WARRANTY

A limited twelve (12) month Material Replacement Warranty is available. For complete details contact Gemite's Head Office.

TECHNICAL SERVICE

For advice on suitability of *Gem-Cote EP ST* for a specific application, specification assistance and application advice contact Gemite Technical Service at: USA 888-443-6483 or Canada 905-672-2020.

Short Specification

The epoxy floor and protective coating will be *Gem-Cote EP ST* as manufactured by Gemite Products Inc. [USA 888-443-6483] or [Canada 905-672-2020]. It will meet all the Technical Data specified in the current *Gem-Cote EP ST* Product Data Sheet.