

PRODUCT NAME

Gem-Cote™ S ST Adhesive

Bonding of Gem-Strip CF Composites



MANUFACTURER

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FEATURES

- Designed for bonding of *Gem-Strip CF* composites
- Hard and tough
- Excellent adhesion and durability
- Easy to apply
- High abrasion resistance
- High chemical resistance

PRODUCT DESCRIPTION

Basic Use

Gem-Cote S ST Adhesive is used in bonding of *Gem-Strip CF* composites to reinforce concrete, masonry and timber structures. *Gem-Cote S ST Adhesive* is also used together with dry silica sand for thin layer patching of concrete surface prior to application of *Gem-Strip CF* composites.

Composition and Materials

Gem-Cote S ST Adhesive is a two component epoxy system consisting of Component A (epoxy resin) and Component B (hardener).

Limitations

Do not apply *Gem-Cote S ST Adhesive* when the temperature is expected to go below 15°C (59°F) and above 25°C (77°F). The RH (relative humidity) must be below 85%. Do not apply over wet surfaces. Consult the manufacturer for application over previously treated substrate.

Health and Safety

Gem-Cote S ST Adhesive 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.

Colors

Gem-Cote S ST Adhesive is a clear epoxy resin system.

Packaging

Gem-Cote S ST Adhesive, Component A (resin) is supplied in 10 kg (22.03 lb.) container and Component B (hardener) in 5 kg (11 lb.) container.

Yield

See the Application Section of this document.

Storage and Transportation

Shelf life of materials in unopened containers is one year. Store in temperatures above 4°C (40°F).

TECHNICAL DATA

Gem-Cote S ST Adhesive		
Specific Density (Comp. A)	1.62 g/cm ³	101.1 lbs/ft ³
Specific Density (Comp. B)	1.66 g/cm ³	103.6 lbs/ft ³
Pot Life		50 minutes min.
Tensile Strength	>30.0 MPa	>4,350 psi
Adhesive Strength	> 3.5 MPa	>510 psi
Compressive Strength	> 60 MPa	>8,700 psi
Static Modulus of Elasticity (E)	>12,000 MPa	1.74 x10 ⁶ psi
Shear Strength by Tensile Loading	>13 MPa	1,880 psi
Resin to Hardener Ratio by Weight	2:1	

INSTALLATION

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

INSTALLATION

Concrete Repair

The structure may require a repair prior to the application of *Gem-Strip CF* composite. Use *Fibre-Prime* as corrosion protective coating for steel reinforcement and as a bonding agent for *Fibre-Patch OV* repair mortar. See respective Gemite product data sheets for *Fibre-Prime* and *Fibre-Patch OV*.

Surface Preparation

Clean contact surfaces of oil, grease, scale, dirt and other foreign matter. The surface must be clean, sound, dry and free of frost. The concrete structure may require restoration prior to bonding of *Gem-Strips CF*. Remove all deteriorated concrete, sand blast the surface or clean using an approved method. (Contact Gemite Technical Service for further instructions). The tensile strength of the concrete must be checked by a random pull-off test (ACI 503R) at the discretion of the engineer. Minimum tensile strength must be 1.4 MPa (200 psi) with failure in the substrate concrete. Uneven surfaces must be filled with and epoxy mortar made of 1:1 volume parts of *Gem-Cote S ST Adhesive* and oven-dry silica sand. Maximum allowable deviation is 6 mm (1/4 in) in 3 m (6 ft) and not greater than 3 mm (1/8 in) over 1 m (3 ft). Remove any sharp edges by grinding. The maximum surface roughness "peak and valley" must not be more than 1 mm (40 mils). When using the epoxy mortar for leveling,

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Structural Reinforcement

“sand” the surface and remove dust. The concrete surface must be ground to expose aggregates and dust completely removed.

Application

Mix *Gem-Cote S ST Adhesive* with the mixing ratio of 2:1 by weight, Component A (Resin) : Component B (hardener), using a slow electrical drill (no more than 600 rpm) and a paddle. Apply the *Gem-Cote S ST Adhesive* on to the surface of concrete at thickness of 1.5 mm (60 mils) using a “straight” rubber spatula. Apply the same adhesive to the surface of *Gem-Strip CF* using a “roof shaped” spatula to thickness approximately 1.5 mm. The total coverage is: CF-0512 0.3 kg/lin.m.; CF-0812 0.5 kg/lin.m.; CF- 1012 0.6 kg/lin.m.. The “open time” of the adhesive is approximately 40 minutes, the setting time approximately 8 hours at 25°C.

Strip Installation

Within the open time of the epoxy, place the *Gem-Strip CF* composite onto the concrete surface. Using a hard rubber roller, press the strip into the epoxy resin on concrete until the adhesive is forced out on both sides. Remove excess adhesive. The adhesive thickness should not exceed 3 mm (1/8 in). The entire *Gem-Strip CF* reinforcing system must be protected by *Primer # 300* and *Tuff-Flex CA*. Please consult respective Gemite product data sheets.

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 S ST Adhesive* 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 bonding system for *Gem-Strip CF* composites will be *Gem-Cote S ST Adhesive* 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 S ST Adhesive* Product Data Sheet.