

PRODUCT NAME

Gem-Cote™ EP 100

Coating, Broadcast System & Mortar



MANUFACTURER

Gemite® Products Inc.

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FEATURES

- 100% solids (no solvent)
- VOC Compliant
- Superior Toughness
- Fast Set & Strength Development
- Can be placed over fresh Concrete after 3-4 days
- High Abrasion Resistance
- High Durability
- High Chemical Resistance
- Excellent Bond
- Fungus & Mold Resistant
- Easy to Clean
- Economical

PRODUCT DESCRIPTION

Basic Use

• Floor & Wall Coating

Two coats of Gem-Cote EP 100 provide a High performance, excellent durability, easy maintenance and up to 5 times the life expectancy of conventional coatings.

• Broadcast Build -Up System

Two (or more) heavier coats of Gem-Cote EP 100 H with silica sand broadcast into the 1st coat produces a non-slip, and easily maintained surface, resistant to thermal cycling that is suitable to repair deteriorated concrete surfaces.

• Mortar Topping (Overlay)

Premix Gem-Cote EP 100 EP H Clear (Colored) with a graded silica sand and trowel over floors previously primed with Gem-Cote EP 100 Primer. Results in a 5 mm (2/16") tough, impact resistant floor overlay that can withstand very severe industrial traffic.

Composition and Materials

Gem-Coat EP 100 is 100% solids epoxy resin system satisfying VOC requirements.

Gem-Coat EP 100 H (horizontal) is almost self-leveling & easy to apply

Gem-Coat EP 100 V (vertical) is designed as a non-sag coating for vertical surfaces.

Gem-Cote EP 100 Gel is used for troweling on vertical surfaces.

Gem-Cote EP 100 Mortar System uses Gem-Cote EP 100 H pre-blended with sand over Gem-Cote EP 100 Primer.

Limitations

Gem-Cote EP 100 cures at 0°C (32°F), but application properties improve significantly at 10°C (50°F) and are excellent at 20°C (68°F). Gem-Cote EP 100 bonds best to clean & dry substrate, but it will bond to relatively fresh 2-3 days drying at 20°C (68°F) concrete. The proper surface preparation is essential for successful application. Consult Gemite Technical Service before starting a project to ensure that the correct surface preparation and application procedures are followed.

Health and Safety

Two-component epoxy systems can produce severe injury to, or destruction of skin and eye tissues. They are classified as corrosive for shipping purposes. Precautions must be taken to prevent prolonged or repeated skin contact and it is essential to protect the eyes form splashes. Protective clothing, rubber gloves and chemical goggles should be worn. Some people become sensitized when working with epoxy resin systems. Avoid breathing vapors, particularly if these products are used in a confined area. Face mask with respirator #1224 is usually adequate. **Must NOT Freeze. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.**

Colors

Gem-Cote EP 100 is available Clear or Tinted. Colors available - Gray, White, Beige and Red.

Gem-Cote EP 100 Primer is as clear material.

Packaging

Gem-Cote EP 100 Kit is 3.78 L (1 USG) and consists of Gem-Cote EP 100 Comp. A + Gem-Cote EP 100 Comp. B

Coverage

See the INSTALLATION section.

Storage and Shelf Life

Gem-Cote EP 100 Kit in unopened containers, stored on pallets in a heated area will have a 2-year shelf life.

TECHNICAL DATA

Gem-Cote EP 100 Clear (H) - Physical Properties

Component A	Clear
Specific Gravity	1.27 g/cm ³
Component B	Clear Amber
Specific Gravity	1.0 g/cm ³
Mixed Material	Clear
Viscosity (after blending A & B)	460 ± 50 cps

Gemite Products Inc.
June 2015

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03064 Concrete Sealers
09780 Floor Treatment

Specific Gravity (after blending A & B)	1.18 g/cm ³
Mixing Ratio - by Weight	A to B 60 to 40
Mixing Ratio - by Volume	A to B 63 to 35

Gem-Cote EP 100 Clear (H) Performance

Tensile Strength - ASTM D638	2,000 psi (13.8 MPa)
Compressive Strength - ASTM C579	13,000 psi (89.6 MPa)
Flexural Strength ASTM - D790	4,000 psi (27.6 MPa)
Hardness Shore D- ASTM D2240	80-85
Modulus of El. - ASTM D790	3.0 x 10 ⁶ psi (20.7 GPa)
Water Absorption - ASTM- D570	0.35%
Abrasion Resistance 1000 rev.ASTM D1044 Taber 1 kg load, CS 17 wheels	0.070 gms
Adhesion to Concrete	Concrete failure at 350 psi (2.4 MPa)
Thermal Coefficient of Linear Expansion - ASTM D696	12 x 10 ⁻⁵ strain /°C
Modulus of Rupture - ASTM C78	2,700 psi (18.6 MPa)
Modulus of Rupture - ASTM C78 350 Freeze/thaw cycles	2,200 psi (15.2 MPa)
Thermal Shock (Broadcast System only) Cycling from -5°C to 70°C	Passes 30 cycles

INSTALLATION

Guide Specifications are available and must be followed.

Surface Preparation

New concrete should be air dried, after wet curing for a minimum of 3 days @ 20°C. Concrete surface must be clean and any existing coatings, debris, oil, grease, dirt, wax, laitance, curing compounds & other contaminants that may interfere with proper adhesion must be removed. Special consideration must be given to oil and any other material that may have penetrated into the concrete. Pull-Off tests must always be used to verify adequacy of surface preparation.

Use *Gem-Coat EP 100* Mortar to repair all cracks & as a leveling course for spalled or uneven surfaces. Allow to cure for 16-24 hrs @ 20°C (68°F), prior to application of Mortar Topping. Joints should be repaired or replaced as required.

Application

Apply *Gem-Cote EP 100* at a rate of 2.5m²/L for the 1st coat. If specified, broadcast silica sand #51 or #71 into the wet material to saturation, approx. 2 kg/ m² (0.4 lb. ft²). Allow to set and sweep away excess sand. Apply 2nd coat of *Gem-Cote EP 100* @ 4m²/L (for profiled surface), or @ 2.5m²/L for smoother profile. For a very smooth surface a 3rd coat of *Gem-Cote EP 100* must be applied @ 2.5m²/L. Total film for the build-up system with broadcast sand is 2-3 mm (80-120 mil).

Drying & Curing *Gem-Cote EP 100* @ 10-25° C

Pot Life at 25 °C - 200 gms	50 minutes
Initial Set for light traffic	20/8 hrs.
Through Cure for heavy traffic	48/24 hrs.
Minimum Overcoating time	16/6 hrs.

Maximum Overcoating time*	24 hrs.
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*Should this time be exceeded, then the cured gloss surface of the *Gem-Cote EP 100* should be sanded to a matt surface before a further coat is applied. Failure to follow this procedure may result in loss of adhesion between the layers.

Gem-Cote EP 100 Mortar System: Mix & apply *Gem-Cote EP 100* at 4.0 m²/L to prime the concrete. Add silica sand aggregate into mixed *Gem-Cote EP 100* and mix thoroughly, and apply as required. **Recommended Hand Trowel mix** (12.5:1 by weight) 2 x 3.75 liters *Gem-Cote EP 100* resin + 5 x 20 kg of silica sand. This mix will yield 1.74 ft³ = 10 m² @ 5 mm thickness.

Drying and Curing Schedule *Gem-Cote EP 100* mortar mix

Pot Life at 25 °C - 200 gms	50 minutes
Initial Set for light traffic 10 °C/25 °C	20/8 hrs.
Through Cure for heavy traffic 10 °C/25 °C	48/24 hrs.
Minimum Overcoating time 10 °C/25 °C	8/4 hrs.
Maximum Overcoating time 10 °C/25 °C	96/48 hrs.

Sealing *Gem-Cote EP 100* mortar. If the mortar surface needs to be sealed, then one or two coats of *Gem-Cote EP 100* or *Gem-Cote EP Primer* at 5 sq.metres/litre per coat.

IMPORTANT: when applying *Gem-Cote EP 100* over concrete with moisture content 4% or more, apply first *Cem-Kote Barrier Cote 100* in two coats and let it air dry cure for 3 days. Check the moisture again, pressure wash and the next day apply two coats of *Gem-Cote EP 100*. E.g. in waste water treatment facilities, **System #3**.

Clean Up

Use Gemite "Cleansing Solvent". CAUTION - This solution is flammable so there must be no open lights, flames, sparking motors or pilot lights in the vicinity. Smoking near the solvent is to be forbidden. All equipment must be cleaned immediately after use.

AVAILABILITY AND COST

Gem-Cote EP 100 is available worldwide. Contact the manufacturer for the name of the nearest Representative/Distributor and current pricing information.

WARRANTY

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

TECHNICAL SERVICE

Technical advice on suitability of *Gem-Cote EP 100* for specific application, Specification assistance & application advice is available from Gemite's Technical Service: USA (888)443-6483 or Canada (905) 672-2020.

Wall & Floor Coating:

2 coats of *Gem-Cote EP 100*

Build-Up System:

Coating over *Gem-Cote EP 100* mortar: 1 coat of *Gem-Coat EP 100* provides a sealed surface.