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GEM-COTE™ EP 100

100% Solids Epoxy Coating

DESCRIPTION

GEM-COTE EP 100 is a high performance, 100% solids, clear or grey epoxy coating formulated to provide durable, chemical-resistant and abrasion-resistant surfaces. GEM-COTE EP 100 is offered in two grades, horizontal and vertical, to meet diverse industrial and commercial application needs.

USES

GEM-COTE EP 100 is designed to be used on steel or concrete in commercial and industrial applications. GEM-COTE EP 100 (horizontal) is ideal for applications where abrasion and chemical resistance are desired. GEM-COTE EP 100 (vertical) is a non-sag grade and is ideal to be used on walls and structural elements, and vertical and overhead applications.

GEM-COTE EP 100 is ideal to be used in waterproofing and protection of concrete structures exposed to sulfuric acid generated by microbiological oxidation of hydrogen sulfide, where hydrogen sulfide concentration is higher than 50 ppm, and/or pH is greater or equal to 2.

GEM-COTE EP 100 may only be used by experienced professionals. For warranties, approved applicators must install GEM-COTE EP 100.

FEATURES/BENEFITS

- Excellent resistance to microbially derived sulfuric acid
- 100% solids, no added solvents
- VOC compliant
- Durable
- Chemical- and abrasion-resistant
- Excellent adhesion to concrete and steel substrates
- Non water vapor permeable
- Cured coating is easy to maintain
- Dried coating is USDA acceptable

PACKAGING

3.78 L (1 Gal.) Units

COVERAGE

First Coat: 3.68 - 4.91 m²/L (150 - 200 ft.²/gal.)
Second Coat: 3.68 - 4.91 m²/L (150 - 200 ft.²/gal.)

The actual coverage will depend on surface roughness and the thickness applied. The applicator must carry out a sample application to determine the actual coverage for the given substrate and application thickness.

SHELF LIFE

When stored on pallets in a dry, cool area at 4° - 35° C, shelf life is two years from the date of manufacture. The liquid component B must not freeze.

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 ± 50cps
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 65 to 35

GEM-COTE EP 100 Clear (H) Performance	
Tensile Strength – ASTM D638	13.8 MPa (2000 psi)
Compressive Strength – ASTM C579	89.6 MPa (13,000 psi)
Flexural Strength – ASTM D790	27.6 MPa (4000 psi)
Hardness Shore D – ASTM D2240	80 - 85
Modulus of El. – ASTM D790	20.7 GPa (3.0 x 10 ⁶ psi)
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 2.4 MPa (350 psi)
Thermal Coefficient of Linear Expansion – ASTM D696	12 x 10 ⁻⁵ strain / °C
Modulus of Rupture – ASTM C78	18.6 MPa (2,700 psi)
Modulus of Rupture – ASTM C78 350 Freeze / Thaw Cycles	15.2 MPa (2200 psi)

APPLICATION

Surface Preparation ... All surfaces must be clean and free of any existing coatings, debris, oil, grease, dirt, wax, laitance, paints, rust, curing compounds and other contaminants that may interfere with proper adhesion, and must be removed prior to application of GEM-COTE EP 100. 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. The residual moisture content of concrete shall not exceed 4%.

Continued over ...

W. R. MEADOWS, INC.

P.O. Box 338 • Hampshire, IL 60140-0338
Phone: 847/214-2100 • Fax: 847/683-4544
1-800-342-5976

www.wrmeadows.com • info@wrmeadows.com

HAMPSHIRE, IL / CARTERSVILLE, GA / YORK, PA
FORT WORTH, TX / BENICIA, CA / POMONA, CA
GOODYEAR, AZ / MILTON, ON / SHERWOOD PARK, AB

Abrasive blast the steel or any metal that will come in contact and requires bonding with GEM-COTE EP 100 to a SPC-SP6, white metal specification finish. Remove all rust, oils, corrosion inhibitors, corrosion deposits, coatings, or similar that will adversely affect bond. If abrasive blasting is not possible, use SSPC-SP2 for Hand Tool Cleaning and SSPC-SP3 for Power Tool Cleaning specification to a white metal finish. Apply GEM-COTE EP 100 within 24 hours of proper steel surface preparation. If not possible to protect from flash rusting, the bond strength between the steel and GEM COTE EP 100 may be decreased depending on local environmental conditions. Do not allow the properly prepared steel to get wet.

Application Method ... Use a high-grade roller or brush to apply GEM-COTE EP 100. Apply two coats for best results. Apply second coat once the first coat has dried to a tack-free state, ensuring not to disturb the initial application. It is critical to apply the second layer within 48 hours; if exceeded, further surface preparation will be necessary.

LIMITATIONS/PRECAUTIONS

Protect packaged units from freezing. Minimum application temperature for GEM-COTE EP 100 is 4° C and rising. The residual moisture content of concrete shall not exceed 4% when tested in accordance to ASTM F2659 (Tramex CME). Substrate temperature must be at least 4° C. Do not hand mix. Protect from rain and ponding water for 48 hours at 25° C.

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LIMITED WARRANTY

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

Disclaimer

The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. W. R. MEADOWS, INC. cannot however under any circumstances make any guarantee of results or assume any obligation or liability in connection with the use of this information. As W. R. MEADOWS, INC. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.