



HEGGEL® Corr 233

High-Temperature Protective Coating

You Build, We Protect!

Description:

HEGGEL Corr 233 is a one-component cutting-edge coating system designed for high-temperature anti-corrosion performance. It offers exceptional adhesion to both metallic and refractory surfaces and demonstrates outstanding resistance to hot acidic gases.

Characteristics:

- Intermittent temperature resistance up to +650°C
- Exceptional resistance to impact and abrasion
- Cures at ambient temperature but requires gradual heating to its operating temperature
- Excellent resistance to thermal shock
- Self-priming
- UV resistant

Applications:

- Exhaust vents
- Stacks
- Structures operating at high temperature
- Generators
- Turbines
- Heat exchangers

Chemical Resistance:

Water, algae, oil, grease, weak acids and alkalis

Application Data:

Finish	Smooth and semi-gloss
Colour	Grey (Others available on request)
Number of Coats	1 - 2
Practical Consumption	Approx. 0.23 kg/m ² @100 microns DFT
Total Dry Film Thickness	75 - 100 microns
Tack Free / Drying Time	60 min @20°C

Note 1: The practical consumption and DFT are subject to specific project conditions and will adjust accordingly to ensure optimal results. Please consult HEGGEL!

Note 2: All the provided values are approximate and should be used as guidelines for specifications.

Technical Data:

Title	Standard	Value
Density	-	1.4 g/cm ³
Solids Content (By Weight)	-	50%
Viscosity	-	10,000 cPoise
Salt Spray Test (Tested on heat aged samples)	ASTM B117	1000 hrs. no damage
Abrasion Resistance	ASTM D4060 (Taber CS-17/1kg/1000 cycles)	43 mg weight loss
Adhesion Strength	ASTM D4541	10 MPa (Cohesive failure)
Temperature Cycling	Ambient to 600°C	5 cycles no damage
Temperature Resistance	-	Continuous: 550°C Intermittent: 650°C

Packaging:

10 kg kits

Storage:

12 months in sealed original container under dry and cool conditions at temperatures 5 - 30°C.

1. Surface Preparation

For best results, the surface should be grit blasted to remove rust and any existing coatings. Follow this by scrubbing with a water-based alkaline degreaser and rinsing with high-pressure water to remove any surface grease, chemical contaminants, and soluble salts. Let the substrate dry and then re-blast the surface with angular grit to achieve at least Sa 2.5 cleanliness with a maximum 75 microns profile. Clear away any remaining dust and grit. Immediate coating of the prepared surface is crucial.

2. Environmental Conditions

Prior to the application of the coating make sure that the temperature of the surface is no less than 20°C as well as the temperature of air is 3°C above the dew point in addition to ensuring the relative humidity being in the range under 80%. In case the substrate's temperature falls below 20°C, it may be necessary to use external heating to elevate the ambient temperature and subsequently heat the substrate.

3. Application Tools

Brush Grade: Application of the mixture can be performed using soft natural bristle brush, with a width of approx. 7.5 cm and bristles not exceeding 5 cm in length. If you are using a new brush, ensure to condition it by forcefully bending and yanking the bristles to eliminate any loose ones. This step is significant to prevent the coating from being contaminated by bristles while the application is taking place.

Spray Grade: Utilize a single-component airless spray unit with a 45:1 ratio or greater, equipped with a 21 thou reversible fluid tip that provides a 60° spray fan angle. Smoother coating finish is achievable using a 19 thou tip. Remove all internal filters from pump and spray gun. Operate the equipment at 5000 psi to ensure optimal spray performance. If the pump uses a suction hose to transfer the coating from the tin to the pump, the hose must be made of stainless steel or rubber.

4. Mixing

Proper mixing is essential to ensure maximum product performance. Ensure the product temperature remains below 30°C before mixing, and store it in a shaded area before, during, and after mixing. Shake or stir the container thoroughly until the mixture is smooth and any settled particles are fully re-suspended. Repeat the mixing process whenever the coating has been left idle for an extended period to maintain consistency.

5. Application

Achieve a total DFT of approximately 75 - 100 microns, ensuring it does not exceed 125 microns. Use a wet film thickness gauge to monitor the coating thickness regularly during application. After completing the coating process, clean all brushes or spray equipment thoroughly with fresh water.

6. Quality Control

After 24 hours of application, inspect the applied coating's continuity using a high-voltage holiday detector equipped with a wire brush. Set the detector to an operating voltage of 400V DC. Dry coating thickness can be precisely measured using an inductance-based electronic dry film thickness tester.

7. Repairing Defects

If the coating thickness falls 25% below the specified requirement, repairs should be carried out. Use a distinctive marker to identify pinholes, missed spots, and thin areas. Prepare the identified areas by roughening both the defect and the surrounding coating to ensure optimal adhesion of the repair material to the intact surface.

8. Curing Time Schedule

After approximately 60 minutes the applied coating would be touch dry at 20°C. Allow the coating to cure at ambient temperature for 2 days before placing it into service. Then, gradually heat the coating at a rate of 90°C per hour until it reaches the operating temperature to ensure proper curing.

9. Safety Measures

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

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All information contained herein is based on the current state of our knowledge and practical experience at the time of release. Therefore, please make sure that this is the latest edition of the Technical Data Sheet. All data are only intended as a guideline for informational purposes and do not constitute a legally-binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications. All information contained in this technical datasheet is subject to change without notice.

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