

HEGSEL® Corr 225

Ceramic Hybrid Epoxy Spray Grade Coating

You Build, We Protect!

Description:

HEGSEL Corr 225 is a two-component, spray grade, self-priming ceramic hybrid epoxy coating. It cures rapidly to deliver a smooth, highly abrasion resistant finish. With an exceptional adhesive strength exceeding 29 MPa and outstanding permeation resistance, it effectively withstands explosive decompression cycles. The coating resists elevated temperatures of up to 180°C in dry conditions and 130°C under immersion.

Characteristics:

- Outstanding durability in environments exposed to pressurized gases and liquids
- Resists high temperature steam at 210°C
- Superior resistance to hydrocarbons, water, and gases with high concentrations of H₂S and CO₂
- Self-priming, single-coat system with exceptional adhesion to steel
- High abrasion resistance
- Excellent protection against severe microbial and algae-induced corrosion

Application Areas:

Specifically engineered to protect three-phase separator vessels and the internal surfaces of pipes transporting process fluids, including mixtures of oil, gas, and water. It effectively tolerates low molecular weight aromatic impurities.

Chemical Resistance:

- Hydrochloric acid 35%
- Glacial acetic 50%
- Phosphoric acid 84%
- MEK, Toluene, Xylene, Acetone, Ammonia
- Water containing all concentration of salts
- Sulphuric acid 80%
- Sodium Hypochlorite 15%
- Nitric acid 30%

Application Data:

Finish	Glossy		
Colour	White, Grey, Black		
Number of Coats	1		
Practical Consumption	~ 1.0 kg/m ² @400 microns DFT		
Typical Dry Film Thickness	600 microns		
@Temperature	20°C	30°C	40°C
Pot Life	20 min	15 min	10 min
Tack Free / Drying Time	90 min	-	-

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

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

Technical Data:

Title	Standard	Value
Density (Mix)	-	1.75 g/cm ³
Solids Content	-	100%
Mixed Viscosity (Mix)	-	30,000 ± 5,000 mPa.s
Abrasion Resistance	ASTM D4060 (Taber CS-17/1kg/1000 cycles)	12 mg weight loss
Adhesion Strength	BS 3900, Part E10	29 MPa (Cohesive failure)
Elongation to Break	BS 6319, Part 7: 1985	1.8%
Impact Resistance	BS 3900, Part E3, 1973	Forward: 10 Joules Reverse: 3 Joules
Temperature Resistance	-	Immersed: +130°C Non-Immersed: +180°C

Packaging:

15 and 25 kg kits

Storage:

+36 months in sealed original tins under dry and cool conditions.
Protect from heat and freeze!

1. Surface Preparation

Proper surface preparation is crucial for the long-term performance. To ensure the best results, wash the surface with a 10% water-based alkaline degreaser under pressure to remove grease, chemicals, and soluble salts. Rewash under pressure using only fresh potable water and allow the substrate to dry completely.

Grit blast the surface using angular grit to achieve a minimum blast profile of 75 microns as per Swedish Standard SA 2.5. Remove any residual dust and grit. Test the surface for soluble salts and ensure chloride levels are below 18 mg/m².

For surfaces previously immersed in saltwater, grit blast the surface, leave it for 24 hours, wash it with fresh water, and then grit blast again. Once the surface is prepared, apply the coating immediately.

2. Environmental Conditions

Prior to the application of the coating, make sure that the temperature of the surface is no less than 20°C, the temperature of the air is at least 3°C above the dew point, and ensure the relative humidity is less than 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. For outdoor applications, create an enclosure around the equipment to be coated using plastic sheeting and then pump warm air into this enclosed area. Be careful to prevent recontamination of the surface which is prepared from close sources. Also avoid applying the coating in windy conditions unless there is no other choice, then enclose equipment in plastic sheeting as described above.

3. Application Tools

Utilize a single-component airless spray unit with a 63:1 ratio or higher, equipped with a 19 thou reversible fluid tip and a fan angle of approximately 60°.

4. Mixing

To ensure optimal performance of the product, thorough mixing is essential. Make sure both base and hardener components are kept below 30°C before mixing and always keep the materials in a shaded area before, during and after mixing. Feed the warm base and hardener to mixing chamber.

The usability of the mixed material lasts for a duration equal to the pot life. Do not mix more material than can be used within the pot life period.

5. Application

Apply **HEGSEL Corr 225** to the specified wet film thickness before proceeding to adjacent surfaces. Pipe coating spray head must traverse through pipe at speed that gives correct film thickness in a single coat. The equipment / tools after coating should be immediately cleaned with MEK or acetone-based thinners.

6. Quality Control

4 hours after application, inspect the integrity of the coating applied high voltage DC holiday detector set at an operating voltage of 1000V. Dry coating thickness can be measured using an electronic inductance-based dry film thickness tester.

7. Repairing Defects

If the coating has been applied 25% beneath specification, repairs should be made. Use a distinctive marker pen to identify pinholes, misses, and areas with thin coating for repair. Any loose material surrounding the defect must be removed to leave behind firmly adhered coating. To repair defects, spot blast the affected area to bare metal, ensuring a profile of at least 75 microns. Additionally, sweep blast a 5 cm radius around the defect into the sound coating to create an overlap for the repair. Clean the prepared surface with xylene before applying the repair.

For pinholes or thin areas inside inaccessible pipes, sweep blast the entire coated surface and apply an additional layer of coating at the specified minimum wet film thickness.

8. Curing Time Schedule

After approximately 90 minutes the applied coating would be touch dry at 20°C. A minimum curing period of 24 hours should be provided before exposing to a chemical load.

9. Recommended Coating System

- Internal coating of process vessels, pipes and equipment:
Single coat @ 300 - 600 microns DFT
- Exterior coating of pipes and equipment:
Single coat @ 400 - 500 microns DFT.

Note: Values here are general guidelines only. As Dry Film Thickness (DFT) determination varies with project-specific conditions and requirements, consult HEGSEL for precise application accuracy.

10. 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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