

HEGGEL® Corr 250

Erosion Resistant Ceramic-Metal Coating

You Build, We Protect!

Description:

HEGGEL Corr 250 is a ceramic/metal epoxy coating, specially formulated for resurfacing and protecting equipment against erosion and corrosion. This hand applied coating offers exceptional abrasion resistance, making it particularly effective against areas impacted by erosion and wear damage from particles. Notably resistant to fine particle abrasion, it can be applied up to a dry film thickness (DFT) of 15 mm.

HEGGEL Corr 250 is not advised for situations involving cavitation erosion. Please consult **HEGGEL GmbH** for suitable product recommendations under cavitation conditions.

Characteristics:

- Easy application with extended pot life, short hardening, and service time
- Strong adhesion to steel, stainless steel, cast iron, copper, bronze, aluminium, alloys, and concrete
- Self-priming
- Highly resistant to sliding abrasion
- Provides a very smooth, frictionless finish

Application Areas:

Repair of tanks, pipes, flange face, casings, shafts, hydraulic rams, bearing housings due to corrosion, particle erosion or chemical attack

Chemical Resistance:

- Crude oil (sweet or sour), kerosene
- Sulphuric acid 50%
- Hydrochloric acid 35%
- Demineralised water
- Nitric Acid 15%
- Acetic acid 30%
- Acetone
- Sodium Hydroxide 50%
- Sodium Hypochlorite 15%
- Methanol

Applications Data:

Finish	Smooth and Glossy
Colour	Dark Grey
Number of Coats	1 - 2
Practical Consumption	Approx. 4 kg/m ² @2 mm DFT
Typical Dry Film Thickness	Up to 2 mm
Pot Life (20°C)	20 min
Initial Set / Drying Time (20°C)	220 min
Machining Time (20°C)	8 hrs
Dry Service Time (20°C)	2 days
Immersion Service Time (20°C)	7 days

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 (Mix)	-	2.4 g/cm ³
Mixed Viscosity	-	125,000 ± 5,000 cPoise
Solids Content	-	100%
Abrasion Resistance	ASTM D4060 (Taber CS-17/1kg/1000 cycles)	10 mg weight loss
Barcol Hardness	ASTM D2583	55
Adhesion Strength	ASTM D4541	24.51 MPa (cohesive failure)
Elongation to Break	BS 6319 Part 7 1985	2 %
Tensile Strength	BS 6319 Part 7 1985	37.27 MPa
Impact Resistance	ASTM G14	Forward: 12 Joules Reverse: 6 Joules
Temperature Resistance	NACE TM0174	Immersed: +90°C Non-Immersed: +150°C

Packaging:

1 kg kits

Storage:

72 months in sealed original tins under dry and cool conditions at temperatures 5 - 35°C.
Protect from heat and freeze!

1. Surface Preparation

To effectively prepare a surface for coating, initially use a metal scraper to remove any loose rust and dirt. Clean the surface of oil or grease using solvents like methyl ethyl ketone (MEK) or acetone, ensuring no residue is left post-evaporation. For optimal adhesion, roughen the surface using tools such as a needle gun, angle grinder, or preferably through grit blasting with angular grit to achieve a minimum blast profile of 75 microns and attain an SA 2.5 level of surface cleanliness. Afterward, eliminate any residual dirt and grit with a vacuum. Surfaces previously immersed in salt water should be thoroughly rinsed with fresh water prior to blasting. Immediate coating of the prepared surface is crucial to prevent oxidation and contamination.

2. Mixing

To ensure optimal performance of the product, thorough mixing is essential. Make sure both base and hardener components are kept below 20°C before mixing and always keep the materials in a shaded area before, during and after mixing. Upon opening the base tin, any substance on the lid must be incorporated into the tin. Gradually incorporate the hardener into the base, ensuring a slow stirring motion with the power mixer. Once the entirety of the hardener has been seamlessly added, elevate the power mixer's speed to its maximum. Proceed with this for an additional 2 minutes, while concurrently using a sturdy spatula or palette knife to scrape the interior walls of the container. This method ensures comprehensive blending of all materials.

The usability of the mixed material lasts for a duration approximately equal to the pot life. Refrain from mixing a quantity of material that exceeds what can be used within the pot life span. Do not mix more material than can be used within the pot life period.

3. Environmental Conditions

Prior to the application of the coating, make sure that the temperature of the surface is no less than 15°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 15°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. Avoid applying the coating in windy conditions unless there is no other choice; in these instances, encase the equipment in plastic sheeting as mentioned earlier.

3. Application Tools

Stiff bristle brush or trowel

4. Application

Apply a stripe coat to corners and edges. For porous and very rough surfaces, thin the mixed coating with 1-2% xylene and apply a thin primer layer to wet out and seal the substrate. Once the primer dries, apply the xylene-free main build coat. Ensure the material is pressed into the substrate for complete wetting out before adding more material to fill the eroded area flush with the component's original surface. If a second coat is required, apply it on the same day or lightly abrade the cured coating before adding another layer. After achieving the desired thickness, lightly brush the surface for an even finish, using a brush lightly soaked in xylene for better results. Clean the brush or trowel immediately with MEK or acetone-based thinners after coating.

5. Quality Control

24 hours after application, inspect the integrity of the applied coating utilizing a holiday detector, set at an operating

voltage of 100 V/mil (DC). An inductance type electronic dry film thickness tester can be employed to provide a quantitative assessment of the dry coating thickness.

6. 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. Subject the defect to spot grit blasting until the bare metal surfaces with at least SA 2.5 cleanliness and a minimum profile of 75 microns is achieved. Also, it is imperative to sweep blast 5 cm of the surrounding sound coating to create a rough surface as repair overlap. Prior to applying the repair of **HEGSEL Corr 250** clean the blasted area with xylene. Brush firmly into the surface profile to ensure complete wet out and then build to required thickness in a single coat. Apply the repair mix firmly into the surface profile with the brush to guarantee complete wet out, subsequently building to the needed thickness.

7. Curing Time Schedule

After approximately 220 minutes the applied coating would be touch dry at 20°C. A minimum curing period of 3 days should be provided before exposing to a chemical load. To enhance the chemical resistance, the coating can undergo a post-cure at 100°C for 4 hours, following a 3-day ambient cure.

8. 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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