HEGGEL® Corr 212

Superior Corrosion Resistant Spray-Grade Coating

You Build, We Protect!

Description:

HEGGEL Corr 212 is a two-component spray grade coating based on hybridised epoxy that provides exceptional resistance to corrosion in extremely harsh chemical environments, sustaining optimal performance within temperatures ranging from -70°C to +190°C by immersion and up to +250°C under non-immersed conditions**. HEGGEL Corr 212** is a state-of-the-art spray grade coating system developed from innovative technologies that meld organic and inorganic molecular structures at the fundamental level. The resulting thermal stability, and highly crosslinked structure, affords an unmatched spectrum of chemical resistance from sub-ambient to elevated temperatures, with only ambient curing required. The cured coating not only offers outstanding adhesion strength but also displays resistance to sliding abrasion and a notably smooth finish, making it ideal for fluid flow enhancement and sludge build-up prevention. **HEGGEL Corr 212** is able to withstand steam cleaning process at temperatures exceeding 190°C. Moreover, the option for an on-site application on the exterior of a hot surface is available through **HEGGEL Corr 212.**

Characteristics:

- Exceptionally resistant against a wide range of chemicals
- Self-priming single layer coating
- Resistant to CUI conditions
- Highly resistant against fouling
- Solvent-free
- Resistant against H_2S / Amines even at elevated temperatures
- Simple curing process at ambient temperature
- Excellent abrasion resistance and impact strength

Application Areas:

- Chemical tanks
- Sour gas service
- Hydrocarbon pressure vessels
- Sour gas treating-amine units (DGA/MDEA/MEA)
- Amine regenerator / storage tanks
- Sulphur recovery tanks
- Condensers
- Distillation units
- Autoclaves
- Heat exchanges
- Evaporators
- Scrubber units
- Process vessels

Chemical Resistance:

- Amines (DEA, MDEA, MEA, DGA, ADIP)
- Spent amines rich in H_2S/CO_2
- Sulphuric acid 98%
- Hydrochloric acid 37%
- Nitric acid 50%
- Glacial acetic 100%
- Sodium hydroxide 50-75%
- Carbon disulphide
- Sodium hypochlorite, sodium perchlorate
- MEK, Toluene, Xylene, Acetone, Ammonia
- Methylene chloride, vinyl chloride, benzyl chloride
- Mono and triethylene glycol at all concentrations
- Chemical solution rich in chlorides or sulphates
- Molten Sulphur + acidic vapour
- Conc. Methanol, ethanol and derivatives

Application Data:

Finish	Glossy		
Colour	Brown, Black, Grey		
Practical Consumption	Approx. 2.5 kg/m^2 @ 800 microns DFT		
Number of Coats	1		
@Temperature	**20°C**	**30°C**	**40°C**
Pot Life	75 min	50 min	30 min
Tack Free / Drying Time	160 min	-	-

Technical Data:

Title	Standard	Value
Density (Mix)	-	1.8 g/cm^3
Viscosity (Mix)	@ 20°C	20,000 ± 5,000 mPa.s
Solids Content	-	100%
Abrasion Resistance	ASTM D4060 (Taber CS-17/1kg/1000 cycles)	20 mg weight loss
Impact Resistance	ASTM G14	Forward: 13 Joules Reverse: 3 Joules
Adhesion Strength	ASTM D4541	29.3 MPa (cohesive failure)
Temperature Resistance	NACE TM0174	Immersed: +190°C Non-Immersed: +250°C

Packaging:

5 kg and 15 kg kits

Storage:

+3 years in sealed original containers under dry and cool conditions.
Protect against heat and freeze!

1. Surface Preparation

To obtain the best results commence by grit blasting the surface to strip off the previous coating, followed by high-pressure water jet cleaning to cleanse any surface chemical contaminants and soluble salts.
Let the substrate dry and then re-blast the surface with angular grit to achieve a minimum blast profile of 75 microns and attain an SA 2.5 level of surface cleanliness. Clear away any remaining dust and grit. In cases where the surface has been immersed in salt water it requires grit blasting, a 24-hour rest period, and then a fresh water rinse before undergoing another blast. New surfaces must be Meticulously degreased prior to the final grit 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 30°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 added to the base, elevate the power mixer's speed to its maximum. Proceed with this for an additional two 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.

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 nearby 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.

4. Application Tools

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

5. Application

Apply a stripe coat to corners, edges, and welds. Objects that are challenging to access must be thoroughly coated using a brush. Proceed to apply **HEGGEL Corr 212** onto the substrate, ensuring all stripe coated regions are covered. Implement the specified film thickness in a single, uniform layer. Frequently monitor the wet film thickness with the help of a wet film thickness gauge particularly when dealing with concrete substrates where it is not feasible to measure DFT. After coating, promptly clean the spray equipment with MEK or acetone-based thinners. In hot climates or prolonged use, clean the equipment every 60 minutes before resuming spraying. This ensures optimal performance and effectiveness.
N/B: HEGGEL Corr 212 should be applied in a single coat. If an additional coat is required, the first coat should be grit blasted prior to the application of the second coat. Please seek our consultation!

6. Quality Control

24 hours after application, inspect the integrity of the coating applied with a 90V DC Wet Sponge holiday detector. Make sure that the coated surface is completely soaked by repeatedly running the sponge across it. An alternative approach involves utilizing a wire brush high voltage spark tester set at 800-1000 V. An inductance type electronic dry film thickness tester can be employed to provide a quantitative assessment of the dry coating thickness.

7. Repairing Defects

If the coating has been applied 25% below 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 **HEGGEL Corr 212,** 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 in a single layer.

8. Curing Time Schedule

After approximately 160 minutes the applied coating would be touch dry at 20°C. A minimum curing period of 3 - 4 days should be provided before exposing to a chemical load. For the purposes of surface decontamination or maximization of chemical resistance, the coating can be exposed to 130°C steam, after a 3 - 4 days ambient cure.

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.

HEGGEL GmbH
Huttropstr. 60
45138 Essen
Germany
Tel: +49 201 17003 270
Fax: +49 201 17003 277
E-Mail: info@heggel.de
Web: www.heggel.de