HEGGEL

Empowered by Expertise!

HEGGEL Corr 212

Superior Corrosion Resistant Semi Paste-Grade Coating

Description:

2-component hybridised epoxy semi paste-grade coating offering superior corrosion resistance in aggressive chemical environments, from -70°C to +225°C (437°F) immersed and +280°C (536°F) non immersed.

Characteristics:

- Excellent broad range chemical resistance
- Resist Amines/H_2S at high temperatures
- Insitu application to exterior of hot surfaces
- Single coat curing at ambient temperature
- Cleanable using high temperature steam
- Resistant to CUI conditions
- Very high fouling resistance

Product:

HEGGEL Corr 212 is an advanced semi paste-grade coating system derived from a novel technology that combines, on a molecular level, both organic and inorganic molecules to provide a thermally stable highly crosslinked structure. It offers superior broad range chemical resistance from sub ambient to elevated temperatures in excess of 225°C, after only an ambient cure. In addition to its excellent adhesive strength, the cured coating has high sliding abrasion resistance coupled with a very smooth finish that enhances fluid flow and prevents sludge build up. **HEGGEL Corr 212** can be steam cleaned at temperatures exceeding 225°C (437°F).

Application Areas:

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

Technical Data:

Finish	Medium Glossy
Solids Content	100%
Mixing Ratio (Base: Hardener)	57:43 by weight
Number of coats	1
Theoretical Coverage	Approx. 0.68 kg/m^2 @ 400 microns DFT
Pot Life at 20 °C	55 minutes
Tack Free/ Drying Time (20°C)	150 minutes at 20°C
Specific Gravity	1.70 gms/cm^3 (Base + Hardener)
Maximum Dry Film Thickness (DFT)	4200 microns **N/B:** Please consult us before applying the material!

Physical Properties:

Abrasion Resistance	ASTM D 4060 20 mg weight loss (Tabor CS-17/1kg/1000 cycles)
Impact Resistance	ASTM G14 Forward: 13 Joules Reverse: 3 Joules
Adhesives Strength	ASTM D4541 >25 MPa (cohesive failure)
Temperature Resistance	NACE TM0174 +225°C Immersed +280°C Non Immersed

Packaging:

1 kg composite kits

Colour:

Brown, Black

Storage:

+36 months in unopened containers

1. Surface preparation

For optimum results grit blast surface to remove the old coating system and then wash using high-pressure water jetting to remove any surface chemical contamination and soluble salts.

Allow the substrate to dry and then re-blast the surface using angular grit to obtain a blast profile of at least 75 microns (Swedish Standard SA 2.5). Remove residual dust and grit. If surface has been immersed in salt water it needs to be grit blasted, left for 24 hours and then washed with fresh water before blasting again. New surfaces must be thoroughly degreased before final grit blasting. Once the surface is prepared it should be coated immediately.

2. Mixing

Thorough mixing will give optimum product performance. Ensure base and hardener are below 30°C before mixing and always keep material in the shade before, during and after mixing. When the base tin is opened any material on the lid must be added to the tin. Add HARDENER to BASE and stir vigorously using a stiff plastic or metal spatula until uniform colour is achieved. Mix for a further 2 minutes periodically scrapping inside of container to achieve complete mixing.

Mixed material remains usable for a time approximately equal to the pot life i.e. 55 minutes at 20°C, 35 minutes at 30°C and 20 minutes at 40°C. Do not mix more material than can be used within the pot life period.

3. Application

Before coating ensure that the surface temperature is at least 15°C and that the air temperature is 3°C above the dew point with a relative humidity below 80%. If the temperature of the substrate is below 15°C then external heating may be required to increase the ambient temperature and so warm the substrate. If outdoors, plastic sheeting should be used to construct an enclosure around the equipment to be coated before applying warm air into the space within the construction. Avoid re- contamination of prepared surface from nearby sources. Do not apply coating in windy conditions unless absolutely necessary, in which case enclose the equipment in plastic sheeting as described above. Stripe coat corners, edges and welds.

Apply **HEGGEL Corr 212** by initially brushing firmly into the substrate or spreading out by spatula to achieve surface wet out before building to specified film thickness in a single coat. Check regularly the wet film thickness using a wet film thickness gauge especially on concrete substrates where DFT measurements are not possible. The brush or spatula should be cleaned with MEK or acetone based thinners after application of every two kits.

N/B: HEGGEL Corr 212 must be applied as a single-layer coating. Otherwise the first layer should be grit blasted before applying the second coat. Please consult us!

4. Application Equipment

The mixture can be applied with a spatula or a stiff natural bristle brush, 3 inches wide and bristles no more than 2 inches long. If the brush is new then condition by vigorously bending and pulling bristles to remove all loose ones. This is an important step to avoid bristles contaminating the coating during application.

5. Dry Coating

12 to 24 hours after application check the continuity of the applied coating using a Wet Sponge holiday detector set at an operating voltage of 90V DC. Ensure that the coated surface is thoroughly wetted out by repeated passage of the sponge over it. A quantitative measure of the dry coating thickness can be obtained using an inductance type electronic dry film thickness tester. Coating should be repaired if applied 25% below specification. Pinholes, misses and thin areas of coating should be identified for repair using a distinctive marker pen. Repair by spot blasting the defect to bare metal with a profile of at least 75 microns and additionally sweep blasting / feather a 2 inches radius of sound coating surrounding the defect for overlap of the repair. The prepared area is cleaned with xylene before application of the repair.

6. Repair of Existing Coating

All loose material around the defect must be removed to leave sound firmly bonded coating. Spot grit blast the defect to bare metal having at least Sa2.5 cleanliness with a minimum 75 microns profile. Also sweep blast 2 inches of surrounding sound coating to roughen it in order to accept overlap of the repair. Wash blasted area with xylene before applying **HEGGEL Corr 212** repair. Brush firmly into the surface profile to ensure complete wet out and then build to required thickness in a single coat.

7. Chemical Resistance

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

8. Cure Schedule

Coating is touch dry after ~ 150 minutes at 20°C. Unless stated otherwise allow a minimum period of 72 hours to reach full cure before exposing to a chemical load. For decontamination of the coating surface or to maximise chemical resistance the coating can be exposed to 130°C steam after 48 hours ambient cure.

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