

HEGSEL® Coat 175

Flexible MIO-Reinforced Epoxy Primer / Coating

You Build, We Protect!

Description:

HEGSEL Coat 175 is a two-component, high-solid, tar replacement epoxy-based coating reinforced with micaceous iron oxide (MIO). It provides very good corrosion protection. Its formulation as a high-build, flexible coating allows use as both a primer and a coating, offering extremely low permeability (diffusion resistance factor $\mu > 90,000$).

Characteristics:

- Exceptional corrosion protection
- Outstanding barrier performance
- Remarkable adhesion strength
- High mechanical strength
- Applicable at 5 °C and 90% relative humidity
- Superior flexibility
- High chemical and water resistance; suitable for immersion service
- VOC \leq 250 g/l
- Extreme impermeability

Application Areas:

HEGSEL Coat 175 is specifically formulated to protect steel structures exposed to industrial and highly aggressive atmospheric environments, as well as immersion in freshwater, seawater and soil (Im1, Im2, Im3).

Application Data:

Finish	Semi-matt Note: The final gloss level is influenced by the substrate condition and applied film thickness, and may in some cases differ from the stated values.	
Colour	Black, Red-brown	
Mixing Ratio	Base : Activator = 4 : 1 (Parts by volume)	
Theoretical Consumption	~ 0.21 kg/m ² @100 microns DFT	
Practical Consumption	For large areas: ~ 0.31 kg/m ² @100 microns DFT For small areas: ~ 0.43 kg/m ² @100 microns DFT Note: Performance in practice varies with site conditions; so, the stated coverage values should be used only as guidelines for airless spraying.	
Standard Dry Film Thickness (DFT)	100-250 micron (depends on application process)	
Temperature	10 °C	20 °C
Pot Life	-	5 hrs
Drying Time (Dust free)	3 hrs	2 hrs
Drying Time (Manageable)	24 hrs	16 hrs
Overcoat Interval	16 hrs	8 hrs

Note 1: All the provided values are approximate and should be used as guidelines for specifications.
Note 2: Drying times obtained using Activator in relative humidity 50% and nominal dry film thickness of 100 μ m. At higher film thicknesses, longer drying times must be considered.
Note 3: The maximum overcoating interval is unrestricted, as long as the surface is clean and devoid of grease and oil.

Technical Data:

Title	Standard	Value
Solids Content (Mix)	-	~70% Parts by volume (depends on colour)
Density (Mix) @ 20 °C	-	~1.50 kg/l
Salt Spray Resistance	ISO 9227 (NSS) / ASTM B117	> 2500 hrs
Pull-off Adhesion	ISO 4624 / ASTM D4541	Before salt spray 9.0 MPa After salt spray: 8.0 MPa
Cathodic Disbonding	ISO 15711	13 mm (after 4200 hrs)
Flexibility	ISO 1519 / ASTM D522	25 mm (Cylindrical mandrel)
Water Vapour Permeability	-	$\mu > 90,000$ (diffusion resistance factor)
Temperature Resistance	-	Dry heat: Up to 150 °C
Outdoor Exposure	ISO 2810	5 years

Note: Cathodic Disbonding test was conducted on HEGSEL multi-layer coating systems.

Packaging:

20 litre cans;
HEGSEL Coat 175 Thinner: 25 litre jerry cans or 200 litre drums.

Storage:

12 months, in sealed original containers under dry and cool conditions, ideally between 5 – 40 °C. Protect from heat and freeze!

1. Surface Preparation

Steel: Steel surfaces shall be prepared to a cleanliness level of Sa 2½ in accordance with ISO 8501-1, with a blasting profile of 40–70 µm, or alternatively cleaned using power tools to a minimum standard of ISO St3 / SSPC SP3.

For untreated steel, surface preparation shall be carried out in accordance with ISO 12944-4 §6.2.3. All grease, oil, dirt, and other contaminants must first be removed using a suitable cleaning agent such as **HEGGEL Cleaners** applied with a high-pressure spraying pistol. The surface shall then be grit blasted to Sa 2½ according to ISO 8501-1. After blasting, all dust must be removed from the entire surface using clean, dry, oil-free compressed air. The first coating layer must be applied within 6 hours after blasting. If the final coating layer is to be applied on the construction site, additional precautions must be taken to maintain surface cleanliness and coating performance.

Hot dip galvanized: The surface must be prepared in accordance with ISO 12944-4, section 6.2.3.4.1 (sweep blasting with inert grit) and NEN 5254 for duplex systems. All grease, oil, and contaminants should be removed using a suitable cleaning agent like **HEGGEL Cleaners**. The entire galvanized surface must then be lightly sweep-blasted using an inert abrasive with a grain size of 0.3–0.5 mm, at a blasting pressure of 2.0–2.5 bar and a minimum nozzle diameter of 6 mm. After blasting, the surface should exhibit a uniform, matte appearance. Depending on the zinc coating thickness, a maximum of 5–10 µm of zinc may be removed, as specified in NEN 5254. Finally, remove all dust from the surface using clean, dry, oil-free compressed air. Apply first coating layer within 2 hours.

2. Environmental Conditions

Prior to, during, and after application of the coating, ensure that the substrate temperature is at least 3 °C above the dew point and the maximum relative humidity shall be below 90%. Furthermore, any contact with moisture must be avoided during application process.

3. Application Tools

Air spray: For effective application, use conventional air spray equipment. Thin the

material with **HEGGEL Coat 175 Thinner** at 5–10% by volume. Maintain a flow pressure of 3–4 bar for optimal operation. Use a nozzle size of 2.0–2.5 mm. The achievable dry film thickness ranges from 100 to 250 µm.

Airless spray: Apply using standard airless spray equipment. Dilution with **HEGGEL Coat 175 Thinner** may be required at 0–10% by volume, depending on application conditions. Operate at a pressure range of 150–175 bar and a nozzle size of 0.015–0.017 inch is recommended. The resulting dry film thickness typically falls between 100 and 250 µm.

Air mix: Application may be carried out using Air mix spray equipment. Thin with **HEGGEL Coat 175 Thinner** at 5–10% by volume. A working pressure of 70–100 bar is recommended. Use a nozzle size of 0.015–0.017 inch. The recommended dry film thickness per coat is 100–250 µm.

Brush / Roller: Application by brush or roller may require thinning with **HEGGEL Coat 175 Thinner** or **HEGGEL Coat 175 Brush Thinner** at 0–5% by volume. Using this method, a typical dry film thickness of approximately 100 µm can be achieved.

4. Mixing

Thoroughly mix the base component and activator using a mechanical mixing device. Ensure the temperature of the mixed material is maintained at a minimum of 10°C during application.

5. Application

The coating is preferably recommended to be applied using airless or air mix spray equipment, as brush application may result in variations in film thickness and reduced flow properties.

The product can be applied without thinning when using airless spray equipment at 18–23 °C.

Apply uniformly to achieve required dry film thickness.

Where thinning is required, the amount of **HEGGEL Coat 175 Thinner** should be adjusted to 0–10 vol.% depending on the equipment used, application method, and temperature of the mixed material.

Note: Clean all equipment immediately after application using **HEGGEL Coat 175 Thinner**.

6. Chemical Resistance

According to ISO 2812-1 / ISO 2812-2 / ASTM D543: (indicative, based on immersion testing)

- Distilled water
- Hydrochloric acid 10%
- Sodium hydroxide 10%
- Mineral oil

7. Repairing Defects

Touch-up of damaged or untreated areas shall be carried out on site. Remove grease, oil, and dirt using a suitable cleaning agent, like **HEGGEL Cleaners**. Remove rust from mechanically damaged areas, weld seams, weld spots, and heat-affected zones using rotating steel wire brushes, sanding discs, or coarse sandpaper to a minimum cleanliness grade St 3 in accordance with ISO 8501-1.

Smooth the transition between cleaned areas and adjacent intact coatings by sanding and scraping. After sanding, remove all dust using clean, dry, oil-free compressed air. Then repair the area using the complete coating system in accordance with the coating specification. Minor surface damage may be repaired using the top coat only.

Note: Regular cleaning of the surface is recommended. The coating system should be inspected annually for defects, and any damage shall be repaired using the original coating system.

8. Safety Measures

HEGGEL Coat 175 (UN number: 1263) is in accordance with EU Directive 67/548/EEC and applicable hazardous substances regulations.

Ensure adequate ventilation during application and drying to reduce solvent vapors. This is necessary to achieve proper drying conditions and to protect applicators' health. Causes skin and eye irritation and may be harmful if inhaled. In case of eye contact, immediately rinse thoroughly with water and seek medical attention. Do not eat, drink, or smoke while handling this product. Keep away from heat, sparks, and open flames.

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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