HEGGEL® Coat 178

Heat-Resistant Zinc / MIO Silicone Based Primer

You Build, We Protect!

Description:

HEGGEL Coat 178 is a heat-resistant, high-solids anti-corrosive primer based on high-quality silicone resins and reinforced with zinc and micaceous iron oxide pigments. The primer provides anti-corrosive protection and maintains performance under thermal stress at elevated temperatures.

Characteristics:

- Suitable as a primer for multi-layer protective systems
- Provides resistance at elevated temperatures
- Heat-resistant up to 550 °C (dry load)
- VOC ≤ 270 g/l

Application Areas:

HEGGEL Coat 178 is suitable as a primer for steel structures exposed to elevated temperatures, particularly in heat-resistant coating systems for industrial equipment.

Application Data:

Finish	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	Grey
Theoretical Consumption	~ 0.067 l/m^2 @ 50 microns DFT
Practical Consumption	For large areas: ~ 0.095 l/m^2@ 50 microns DFT For small areas: ~ 0.13 l/m^2@ 50 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)	50-75 micron (depends on application process)
Temperature	**20 °C**
Drying Time (Dust free)	1 hr
Drying Time (Manageable)	6 hrs
Overcoat Interval	8 hrs

Note 1: All the provided values are approximate and should be used as guidelines for specifications.
Note 2: Drying times obtained in relative humidity 50% and standard dry film thickness of 50 µm. At higher film thicknesses, longer drying times must be considered.
Note 3: No maximum overcoating interval, provided the surface is clean, dry, and free from contaminants.

Technical Data:

Title	Standard	Value
Solids Content	-	~ 75 vol.% (depends on colour)
Density @ 20 °C	-	~ 3.00 kg/l
Temperature Resistance	-	Dry heat: Up to 550 °C

Packaging:

20 litre cans and 200 litre drums
HEGGEL Coat 178 Thinner: 25 litre cans or 200 litre drums.

Storage:

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

1. Surface Preparation

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 80%. Furthermore, any contact with moisture must be avoided and adequate ventilation shall be provided during application and curing process. This is necessary to ensure proper drying.

3. Application Tools

Air spray: For effective application, use conventional air spray equipment. Thin the material with **HEGGEL Coat 178 Thinner** at 10–20% by volume. Maintain a flow pressure of 3–4 bar for optimal operation. Use a nozzle size of 2.5–3.0 mm. The achievable dry film thickness is 50 µm.

Airless spray: Apply using standard airless spray equipment. Dilution with **HEGGEL Coat 178 Thinner** may be required at 0– 10% by volume, depending on application conditions. Operate at a pressure range of 140–160 bar and a nozzle size of 0.015– 0.017 inch is recommended. The resulting dry film thickness typically falls between 50 and 75 µm.

Air mix: Application may be carried out using Air mix spray equipment. Thin with **HEGGEL Coat 178 Thinner** at 0– 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 50–75 µm.

Brush / Roller: Application by brush or roller may require thinning with **HEGGEL Coat 178 Brush Thinner** at 0- 5% by volume. Using this method, a typical dry film thickness of approximately 50 µm can be achieved.

4. Mixing

Material is supplied ready for use. Stir thoroughly before application. Thinner may be added if a specific viscosity is required or when using air spray.

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, air mix spraying equipment, brush and roller. Where required, viscosity may be adjusted by adding a small amount of **HEGGEL Coat 178 Thinner.**

Apply uniformly to achieve required dry film thickness.

Note: Clean all equipment immediately after application using **HEGGEL Coat 178 Thinner.**

6. Post Curing Schedule

To achieve full heat resistance, **HEGGEL Coat 178** shall be heated to 200 °C after a flash-off period of 2 hours at 20 °C and maintained at this temperature for at least 2 hours.

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 178 (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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