

SilFORT™ MHC2710 Clearcoat

Description

SilFORT MHC2710 Clearcoat is a thermally cured, siloxane-based, primerless hardcoat system used principally to protect bare aluminum substrates. Allowing the elimination of the anodization process for certain applications, its use can lead to significant cost savings and an improved sustainability profile. SilFORT MHC2710 Clearcoat offers scratch resistance, chemical resistance, as well as excellent acid and alkali resistance in the range of pH 1.0 to 13.5, while allowing the appearance of the substrate to be maintained. Series 3000 and 5000 aluminum alloys treated with SilFORT MHC2710 Clearcoat will typically exhibit the best corrosion performance in salt spray testing.

This direct-to-metal sol-gel coating system can generally be applied by either spray, dip, or flow coating, allowing for greater design freedom. Curvatures, radii and orifices can typically be managed in the coating process without making any design compromises. The gloss level of the coating can also be adjusted to the desired optical appearance by the incorporation of Momentive's SilFORT MHC Matte additive, allowing high gloss, semi-gloss and low gloss parts.

Key Features and Typical Benefits

- Direct-to-metal / primerless adhesion
- Elimination of anodization process
- Exceptional pH resistance (pH 1.0 to >13.5)
- Good corrosion resistance
- Excellent scratch resistance
- Excellent chemical resistance
- Wide application window

Typical Physical Properties

| Property ⁽¹⁾ | Unit | SiLFORT MHC2710 Clearcoat |
|------------------------------|-------------------|---------------------------|
| Physical Form | - | Liquid |
| Color | - | Colorless |
| Solids Content | % | Approx.25 |
| Density (@ 25°C) | g/cm ³ | Approx. 0.98 |
| Kinematic Viscosity (@ 25°C) | cSt | Approx. 4 |
| pH | - | Approx. 5 |
| Shelf Life ⁽²⁾ | Days | 90 (stored below 10°C) |

1. As supplied. Typical properties are average data and are not to be used as or to develop specifications.

2. From date of manufacture.

Potential Applications

- Exterior automotive parts made from aluminum (e.g. window trim, roof rails)
- Interior automotive parts made from aluminum
- Cookware
- Industrial parts

General Considerations for Use

| | SiLFORT MHC2710 Clearcoat |
|--|--|
| Application Method | Spray, flow, dip |
| Reducing Solvents ⁽³⁾ | 1-Butanol (CAS# 71-36-3) 2-Propanol (CAS# 67-63-0) |
| Recommended Coating Thickness ⁽⁴⁾ | 4.0 – 6.0 µm |

3. If necessary for application process, other suitable solvents may be considered.

4. Other thicknesses can be considered but may affect performance.

SiLFORT MHC2710 Clearcoat is a cross-linking product, sensitive to extended exposure to elevated temperature. Storage at lower temperatures (< 0°C) may increase typical shelf-life beyond 3 months.

Once the product has reached ambient temperature it should be used within 7 days. Re-refrigeration to less than 10°C should be considered when product will not be used

within 24 hours.

For a particle-free surface, components should be processed in a climate-controlled cleanroom environment that complies with ISO14664-1, equal to or lower than class 6.

Before applying any coating, part surface temperature should be <35°C.

For more detailed guidance on the use of SilFORT MHC2710, please request the accompanying Processing Guide, from your local Momentive representative.

Packaging

Products are currently available in:

- 5 Gallon Pail (40.0 lbs, 18.2 kg)
- Other packaging sizes available upon request

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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For literature and technical assistance, visit our website at: www.momentive.com

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