MOMENTIVE™

Technical Data Sheet

SilFORT* SHC5020

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Description

SilFORT SHC5020 silicone hard coat resin can provide a clear, mar-resistant film when applied to a suitably prepared plastic substrate. It can be flow, dip or spray coated.

SHC5020 silicone hard coat is an excellent candidate to consider for use on cast, extruded and molded acrylic parts made from polymethylmethacrylate. It can offer mar resistance and protection from chemical attack.

Key Features and Benefits

- Primerless adhesion to PMMA
- Abrasion and mar resistance
- Solvent/chemical resistance
- Good clarity
- Thermal resistance
- Anti-graffiti

Typical Physical Properties

Property	Values
Solids Content, % by weight	20 ± 2
Solvent	Isobutanol
Flash Point, Pensky-Martens Closed Cup, °C (°F)	23.3 (74)
Density, lbs/gal (g/cc)	7.6 ± 0.1 (0.911)
pH	= 6
Shelf Life in original sealed containers, °C (°F)	3 months at 4-10 (39-50)
Viscosity, cstk @ 25°C	4 - 7

SHC5020 Silicone Hard Coat on PMMA Acrylic

Film thickness	0.2 mil (5 microns)
Taber Abrasion(1), 100 cycles	= 4% Haze

500 cycles	= 12% Haze

(1) Humidity during coating and Taber wheel variability will affect final values. Taber abrader with 500g load, CS10F wheels. Haze measured per ASTM D 1003.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a 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 Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (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.

Processing Recommendations

General Requirements

Coating area should be clean, dust-free (Class 10,000 or better), well-ventilated and with the relative humidity controlled to 40 ± 10%. If necessary, parts should be washed or wiped clean with Isopropyl alcohol, a mild detergent solution and clean water rinse, followed by a filtered-air blow-off. Cleanliness is critical for the production of good parts. The coating solution should be filtered continuously or just prior to use to approximately 0.5 to 1.0 micron, using a 3 to 5 micron prefilter. Electric or indirect gas-fired ovens with good convection and air exchange are recommended.

SHC5020 Silicone Hard Coat

The hard coat can be applied to cleaned parts by dip, spray, or flow coating. For spray applications and large part flow coating, the solids of the coating can be reduced with an appropriate solvent (e.g. isobutanol). Topcoat should be applied to result in a cured film thickness of 3 to 5 microns depending on application. The coating should be allowed to dry at room temperature until tack free, 5 to 20 minutes. After part reaches cure temperature, the coating typically cures at 130°C (266°F) in about 30 minutes. For acrylics and other low melting plastics, cure at 90 - 95°C (194 - 203°F) for 60 - 120 minutes.

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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Contact Information

For product prices, availability, or order placement, contact our customer service by visiting www.momentive.com/Contacts

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

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