

Silcat™ RHS

Silcat* RHS

Description

Silcat RHS silane is a specially formulated, multi-component crosslinking system (silane, peroxide, catalyst and antioxidants) for use in moisture crosslinking of stabilized polyethylene or ethylenecopolymers. It provides excellent performance on equipment designed for Monosil⁽¹⁾ technology. Silcat RHS silane can provide enhanced stability when shipped or stored at elevated temperatures.

(1) Maillefer SA and BICC Ltd.

Key Features and Benefits

Silcat RHS silane has the following advantages over traditional silane crosslinking systems:

- Improved stability provides a SADT of 78°C for safer shipping and storage. This feature is particularly important in warm climates or for international shipments where the lack of refrigeration/air conditioning may raise safety concerns.
- The Silcat RHS silane formulation may prevent premature crosslinking or may allow higher temperatures at the feed section of the extruder, resulting in faster melting of the resin, better homogenization, and improved grafting efficiency with higher output rates.

Typical Physical Properties

| | |
|--|--------------|
| Appearance | Clear liquid |
| Color | Light yellow |
| Viscosity, mPa s (cP), @ 23°C ⁽²⁾ | 2.5 |

| | |
|--|------|
| Specific Gravity, g/cm ³ , @ 25°C | 0.98 |
| Flash Point, Tag Closed Cup, ASTM D56-79, °C | 24 |

(2) Brookfield LV/60rpm

Potential Applications

Silcat RHS silane contains vinylsilane, peroxide, crosslinking catalysts and stabilizers in a ratio optimized for crosslinking stabilized polyethylene in commercially available one-step extrusion equipment. It is suited for LV and MV cable extrusion.

Patent Status

Standard copy to come

Product Safety, Handling and Storage

NEVER STORE THIS PRODUCT ABOVE 55°C (131°F)!

Standard copy to come

Processing Recommendations

Moisture-cured cables produced with Silcat RHS silane by the Monosil process can meet the IEC 502 cable specification.

Recommended Resins

Silcat RHS silane must be used with stabilized polyethylene resins or non-stabilized resins in association with the appropriate masterbatch. Recommended types are:

LDPE resin:

| | |
|-----------------------------|----------------------------------|
| - Melt index(190°C/2.16 kg) | 0.2 to 3 g/10 min. |
| - Density | 0.915 to 0.925 g/cm ³ |

LLDPE resin:

| | |
|-----------------------------|----------------------------------|
| - Melt index(190°C/2.16 kg) | 2 to 6 g/10 min. |
| - Density | 0.915 to 0.925 g/cm ³ |

Processing

The moisture content of the compound must be less than 200 ppm. Pre-drying the

compound at 70°C by means of an air desiccator is highly recommended.

Grafting: Optimum addition levels for a given application must be determined experimentally. Data collected on Nextrom extruders indicate that the dose levels of Silcat RHS silane should be between 0.8 and 1.8% by weight.

Temperature profile setting of the extruder:

| | |
|----------------|-------------------------------|
| - Barrel | 150/150/150/170/190/200/210°C |
| - Head and die | 210/280°C |
| - Screw | 80 to 100°C |

Crosslinking: Rate of cure is dependent upon time, temperature and thickness of the layer and available moisture. Sufficient crosslinking can be achieved by any of the following methods:

- Immersion in water at 80-90°C, or
- Exposure to low pressure steam at 105°C, or
- Exposure to steam at atmospheric pressure (i.e. a sauna at 100°C)

Limitations

Standard copy to come

Contact Information

Email

commercial.services@momentive.com

Telephone

| Americas | Latin America | EMEAI- Europe, Middle East, Africa & India | ASIA PACIFIC |
|------------------------|----------------------|---|---------------------|
| +1 800 295 2392 | Brazil | Europe | China |
| Toll free* | +55 11 4534 9650 | +390510924300 | 800 820 0202 |
| +704 805 6946 | Direct Number | Direct number | Toll free |
| Direct Number | | | +86 21 3860 4892 |

| | | | |
|-------------------------|------------------|--|-----------------|
| *All American countries | Mexico | India, Middle East & Africa | Direct number |
| | +52 55 2169 7670 | + 91 44 71212207 | Japan |
| | Direct Number | Direct number* | +81 3 5544 3111 |
| | | *All Middle Eastern countries, Africa, India, | Direct number |
| | | | Korea |
| | | | +82 2 6201 4600 |

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

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier’s products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier’s standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement

contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*Silcat™는 Momentive Performance Materials Inc.의 상표입니다.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.