

Silcat* RHS

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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

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

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

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.

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

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

Contact Information

For product prices, availability, or order placement, contact our customer service at Momentive.com/CustomerService/

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

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