

SilForce™ SL5135 Controlled Release Polymer

Product Description

SilForce SL5135 controlled release polymer is a highly efficient controlled release polymer to consider for use in manufacture of tight release silicone liners for pressure sensitive tapes and labels. SilForce SL5135 controlled release polymer includes a maleate inhibitor for optimized bath life and hydride to improve reactivity. SilForce SL5135 controlled release polymer can help reduce smoke and foam generated during processing. These features, combined with fast cure and stable reproducible release, can offer converters excellent processing, productivity and a premium liner. SilForce SL5135 controlled release polymer is based on Momentive’s proprietary silicone resin polymer technology that typically delivers process benefits and reliable tight release performance.

Key Features and Typical Benefits

- Compatible with virtually all Momentive SilForce solventless release polymers, crosslinkers, inhibitors, catalysts, anchorage and anti-misting additives for maximum formulation flexibility.
- May be considered for use in addition-cure solvent-dispersed release coating formulations
- Typically exhibits low smoke during processing, which can help promote safer working conditions and reduced environmental impact
- Excellent foam control in solventless coating baths during process offers potential for productivity and quality improvements
- Highly efficient controlled release polymer that provides for differential release performance options

Potential Applications

- Tight release liners for removable and ultra-removable pressure sensitive adhesive labels.
- High differential paper and film release liners for tapes.

Typical Physical Properties

Viscosity ⁽¹⁾	Silicone Solids ⁽²⁾	Appearance
3000 cps	89.0%	Clear Fluid

(1) Ostwald tube, 25 °C

(2) 150 °C, 45 minute weight loss

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

SAMPLE FORMULATIONS (parts by weight basis):

SilForce SL5135 contains a maleate inhibitor and is designed to formulate multi-component systems for optimized bath life. It is also compatible with alkynol alcohol inhibited products such as SilForce SL6161 and SL6162 base polymers.

Paper Substrates:

<u>Formula #1</u> (Std Pt)	SilForce SL6161 base polymer	SilForce SL6210 catalyst	SilForce SL5135 controlled release polymer	SilForce SS4300C crosslinker
Easy	92	8	0	3.04
Moderate	77	8	15	3.05
Tight	57	8	35	3.08
Extra Tight	32	8	60	3.11

Formula #2 (Low Pt)	SilForce SL6800 base polymer	SilForce SL6845S inhibitor/anti-mist	SilForce SL6210 catalyst	SilForce SL5135 controlled release polymer	AnchorSil 2021 paper anchorage additive	SilForce SL4410 crosslinker
Easy	69.3	26.7	4	0	0.5	4.89
Moderate	58.3	22.7	4	15	0.5	4.84
Tight	43.7	17.3	4	35	0.5	4.76
Extra Tight	25.3	10.7	4	60	0.5	4.67

Above SilForce grades include AnchorSil 2021 anchorage additive to assist in anchorage of the coating to papers for low Pt formulations. The inputs should be blended as follows: SilForce base polymer and inhibitor/anti-mist (if required) are mixed thoroughly then the SilForce SL5135 controlled release polymer added and thoroughly mixed before addition of SilForce crosslinkers and AnchorSil 2021 paper anchorage additive (if required). The crosslinker and AnchorSil 2021 paper anchorage additive can be added at the same time and should be well mixed with all polymer components before addition of SilForce SL6210 catalyst.

Formulated baths can be applied to supercalendared kraft (SCK), glassine, clay-coated kraft (CCK), hybrid clay-coated kraft (HCK) and other paper substrates by means of a 3-roll offset gravure or multi-roll film splitting coaters to achieve defect-, smear- and migration-free, thermally cured thin silicone coatings. Processing conditions (i.e. web temperature, roll ratios, line speed and oven efficiency), liner basis weight, composition and porosity dictate the degree of cure, silicone coat weight and release performance of the finished liner.

PET Film Substrates:

Formula	SilForce SL6961 base polymer	AnchorSil* 2000 anchorage additive	SilForce SL6210 catalyst	SilForce SL5135 controlled release polymer	SilForce SS4300C crosslinker
Easy	92	3	8	0	2.6
Moderate	72	3	8	20	3.0
Tight	47	3	8	45	2.8
Extra Tight	22	3	8	70	2.7

Above SilForce grades include AnchorSil 2000 anchorage additive to assist in anchorage of the coating to polyester (PET) films. SilForce SL6961 base polymer and SilForce SL5135 controlled release polymer should be thoroughly mixed before AnchorSil 2000 is added. SilForce SS4300C crosslinker can then be added and thoroughly mixed before the final addition of SilForce SL6210 catalyst to complete the formulation.

Contact your Momentive technical representative for assistance in designing your formulations for your process and substrate requirements.

Product formulations are included as illustrative examples only. Momentive makes no representation or warranty of any kind with regard to any such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations. Other Momentive SilForce base polymers, inhibitors, catalysts, crosslinkers and additives are available to meet specific performance criteria and targets.

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

SilForce SL5135 contains hydride and should be handled in storage and disposal like that of a crosslinker. 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 application(s).

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