

SilForce* SL6162 Release Coating

Product Description

This thermal solventless technology is most commonly used with glassine and PE coated kraft papers, where the cost saving will be most significant. Nevertheless, it can also be considered for use for kraft paper and PET films by adjusting the level of catalyst accordingly and selecting the right cross-linker. In combination with our new AnchorSil* 2000 and AnchorSil 3000 adhesion promoters, this thermal solventless system may be considered for use with untreated PET films. This system can improve the productivity.

Product References

SilForce SL6162 base polymer

SilForce SL6031 controlled release additive ⁽¹⁾

SilForce SL4320 cross-linker for papers ⁽²⁾

SilForce SL6210 concentrated catalyst (Pt)

(1) Other CRAs may be considered for this base polymer (please contact technical expert from Momentive for advice)

(2) Depending on the substrate and/or the processing conditions other cross-linkers can be used

Key Features and Typical Benefits

- Versatile system for virtually all release liners (papers & films)
- New technology suitable for lower temperature curing
- New generation of inhibitor for fast system
- High flexibility in terms of formulations
- Concentrated catalyst outside of the pre-blends
- Enhanced cross-linker for good anchorage of the release coating
- Productivity gain in terms of machine capacity

Typical Physical Properties

Property	SilForce SL6162	SilForce SL6031
Viscosity, cstks, 25°C	170 - 300	1500 - 2700
Density, kg/l	0.97	1.05

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

Containers

1 kg sample

18 kg pail

180 kg drum

950 kg tote

General Considerations for Use

This solventless release coating system can be applied by any of the methods now being used commercially for solventless silicone. These include three roll differential offset gravure and various multiple smooth roll configurations. Heat should be applied immediately after coating to initiate cure. Best results are obtained with zoned ovens. Operating the first oven zone at 90-120 °C will allow the coating to level, forming a continuous film before cure is initiated. Subsequent oven zones should be sufficiently high to achieve the required web exit temperature. Actual temperatures required for complete cure will be highly dependent on the performance of the oven and machine conditions. In general, minimum web temperature must be maintained a finite time (= dwell time) to obtain complete cure the time being dependent on oven length and the line speed.

Typical starting formulations for glassine papers at a catalyst level of 50 ppm

Component	0% CRA	5% CRA	10% CRA
SilForce SL6162 base polymer	95	90	85
SilForce SL6031 controlled release additive	-	5	10
SilForce SL4320 cross-linker for papers	3.2	3.5	3.8
SilForce SL6210 concentrated catalyst (Pt)	5	5	5

Typical starting formulation for PET films at a catalyst level of 50 ppm

Component	0% CRA	5% CRA	10% CRA
SilForce SL6162 base polymer	95	90	85
SilForce SL6031 controlled release additive	-	5	10
SilForce SL4320 cross-linker for papers	3.2	3.5	3.8
SilForce SL6210 concentrated catalyst (Pt)	5	5	5
AnchorSil* 2000	3	3	3

Important Note:

The suggested starting formulation in the table is based on cure optimization. Destabilized (high) release may occur with some adhesives, solution acrylics in particular, at the suggested cross-linker levels. Please contact a Momentive Performance Materials Technical Service Representative for further information and guidance.

Bath Life

The working life of an activated bath will vary depending on ambient conditions. In general, the suggested formulation in the table will have a minimum bath life of 4 hours.

The thin film bath life of the SilForce SL6162 system is significantly shorter than the thin film bath life of the SilForce SL6600, SilForce SL6625 etc. systems.

At high catalyst level (more than 80 ppm Platinum) bath life with SL6162 can be shorter.

Bath Preparation

To ensure consistent results and maximize bath life, components should be mixed in the following order:

1. Weigh and add SilForce SL6162 to a clean, rust-free container/mixing vessel
2. Weigh and add the cross-linker (SilForce SL4320) to the above material
3. Agitate thoroughly for 5 minutes to ensure homogeneity
4. Weigh and add the platinum concentrate (SilForce SL6210) to above mix
5. Agitate thoroughly for 10-15 minutes to ensure homogeneity.

Bath should be prepared just prior to use.

Coating Weight/Substrates

The optimal coat weight will depend on the hold out and resolution of the surface, but generally 0.8-1.6 g/m² will provide a continuous silicone film.

Coat weights can be determined by X-Ray Fluorescence.

Classification, Toxicity and Precautions

SilForce SL4320 cross-linker will generate flammable hydrogen gas upon contact with strong acids, bases or oxidizing agents. Do not reuse the container.

Intended Use

It is the obligation of the customer to examine Momentive's products as to their suitability for the intended use and application. Application, use and processing of the products by customer are beyond the control of Momentive and are therefore within the exclusive responsibility of customer.

Healthcare Applications

Momentive's products are industrial grade products and for industrial use only. They are not intended for use in certain medical applications involving long-term implantation into the human body (generally 30 days or more), direct ingestion, injection into the body or multiple-use contraceptive devices.

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.

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

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.

Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.