Technical Data Sheet

SilForce™ SL6961

SilForce* SL6961 Release Coating

Description

This new thermal solventless Silforce SL6961 release coating technology from Momentive Performance Materials provides a flat release profile and fast curing. This unique property allows the release liner to run successfully on high speed dispensing machines without breaking the release matrix. Depending on the processing conditions, the release coating can achieve an excellent curing and anchorage performance on glassine paper with only 30 ppm of catalyst. Those key properties will allow to significantly increase the productivity. This product is mainly designed for glassine and PE kraft papers, where the cost saving will be most significant. Nevertheless, it can also be used for kraft paper and PET films by adjusting the level of catalyst accordingly and selecting the right cross-linker.

Product references

Silforce SL6961 : Base polymer
Silforce SL6031 : Controlled Release Additive
Silforce SL4320 : Cross-linker for papers
Silforce SL6210 : Concentrated catalyst (Pt)

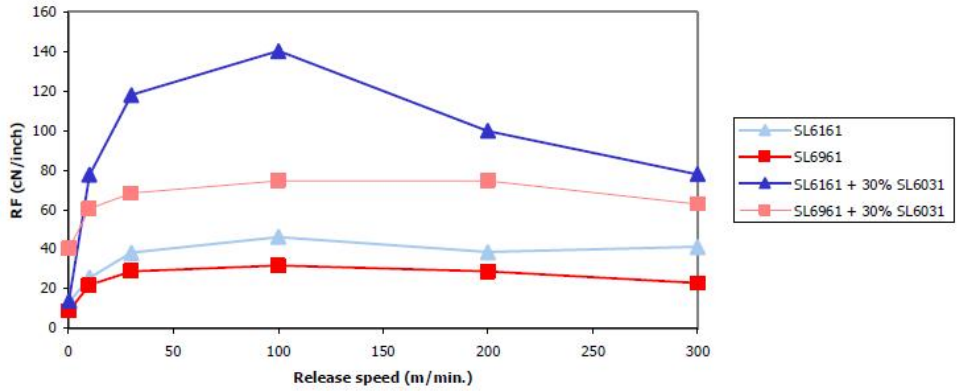
Key Features and Benefits

- Flat release profile (for fast dispensing lines)
- New technology suitable for lower temperature curing systems
- Versatile system for all substrates (papers & films)
- Productivity gain in terms of machine capacity & energy
- High formulation flexibility
- Enhanced cross-linker for good anchorage over time

Typical Physical Properties

Table1

	SL6961	SL6031
Viscosity, cstks, 25°C	100 - 160	1500 - 2700



Graph 1

The Silforce SL6961 release coating base polymer gives a flat release profile, as shown in Graph 1. (Finat # 4, Glassine paper, Adhesive: Tesa 7475)

Potential Applications

The solventless release coating system can be applied by any of the methods now being used commercially for solventless (and solvent based) silicone. These include three rolls differential offset gravure and various multiple smooth rolls 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.

Patent Status

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Product Safety, Handling and Storage

Correctly stored in its original, unopened container at 25°C or below Silforce SL6961 has a shelf life of 720** days from the date of manufacturing. **Please see also use-before/expiry date on product label and certificate.

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

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Processing Recommendations

Table 2 Typical starting formulations for Glassine papers at a catalyst level of 50 ppm

Component	0% CRA	10% CRA	20% CRA
SL6961	95	85	75
SL6031	-	10	20
SL4320	5.4	5.8	6.2
SL6210	5	5	5

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 SL6961 release coating system is significantly shorter than the thin film bath life of the Silforce SL6600, Silforce SL6625 etc. systems.

Bath preparation

To ensure consistent results and maximize bath life, components should be mixed in

the following order: 1. Weigh and add Silforce SL6961 to a clean, rust-free container/mixing vessel
2. Weigh and add the cross-linker (Silforce SL4320) to the above material
3. Agitate thoroughly
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/m^2 will provide a continuous silicone film.
Coat weights can be determined by X-Ray Fluorescence. For machine trials, a simple, inexpensive method to calculate coat weight is available from Momentive Performance Materials.

Limitations

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Specifications

The Silforce SL6961 release coating system (with Silforce SL6031) complies with FDA regulations 175.105, adhesives, 175.320, resinous and polymeric coatings for polyolefin films 176.170, components of paper and paperboard in contact with aqueous and fatty foods, and 176.180, components of paper and paperboard in contact with dry foods.

Availability

The Silforce SL6961 system may be ordered from Momentive Performance Materials Sales office nearest you or an authorized Momentive Performance Materials product distributor.

Containers

1 kg sample
18 kg pail
180 kg drum
950 kg tote

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