

## **SilForce™ SL6625**

### **SilForce\* SL6625 Release Coating**

#### **Description**

SL6625 release coating is a pre-blended version of the SL6100-D1 addition curing, thermal solventless release coating system designed for use in the manufacture of release liners for pressure sensitive tapes and labels. Characterized by fast cure at low temperatures, the SL6625 release coating system is suitable for various paper substrates. One- and two-sided constructions are possible.

#### **SYSTEM COMPONENTS**

The SL6625 release coating system consists of easy and tight release polymers pre-mixed with platinum catalyst and inhibitor , and a copolymer crosslinker.

- SL6625 - Easy Release Polymer with platinum catalyst and SL6040-D1 Inhibitor
- SL6020-D1 - Copolymer Crosslinker
- SL6635 - Tight Release Coating - 80/20 blend of SL6030-D1 and SL6100-D1 with platinum catalyst and SL6040-D1 inhibitor.

#### **Key Features and Benefits**

#### **PERFORMANCE FEATURES**

- Fast cure at low temperatures
- Improved acrylic adhesive compatibility

- Decreased 'spike', slip/stick effect commonly associated with addition cure systems, also referred to as static release
- Good uniform coverage, better dye stain fidelity
- Controlled release, useful for differential release on double-sided products
- Good bulk and thin film bath life
- Cost effectiveness

### Typical Physical Properties

TABLE I

Property	Value
Viscosity, cstk, 25°C (77°F)	170-300
Density, lb./gal	8.065
VOC (EPA test method 24)	0.1 %

### Patent Status

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### Product Safety, Handling and Storage

SL6020-D1 and SS4300c crosslinkers will generate flammable hydrogen gas upon contact with strong acids, bases or oxidizing agents. Do not reuse the containers.

The warranty period for SL6625 release coating is 12 months from date of shipment from Momentive Performance Materials if stored in the original unopened container at 25°C (77°F) or below.

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### Processing Recommendations

#### APPLICATION

The SL6625 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 smooth roll configurations.

Heat should be applied immediately after coating to initiate cure. Best results are obtained with zoned ovens. Operating the first zone at 90-120°C (200-250°F) will allow the coating to level, forming a continuous film before cure is initiated. Subsequent zones should be sufficiently high to achieve the required exit web temperature. Approximate web temperature for SL6625 coating should be minimum 107°C (225°F).

This information should be used as a guide only. The actual temperature required for a complete cure will be highly dependent on machine conditions. In general, minimum web temperature must be maintained a finite time to obtain complete cure, the time being dependent on oven length and air velocity.

## TYPICAL FORMULATIONS

**Table II**

Component	Parts by weight		
	0% CRA	15% CRA	30% CRA
SL6625	100	81.25	62.5
SL6635	-	18.75	37.5
SL6020-D1	5	6	8

### Important Note:

- To improve anchorage to certain substrates, the SL6020-D1 crosslinker may be substituted by the SS4300c crosslinker. To calculate the amount of SS4300c in a formulation from Table II, multiply the amount of SL6020-D1 by a factor of 0.66.
- The suggested starting formulations in Table II are based on cure optimization. Destabilized (high) release may occur with some adhesives, solution acrylics in particular, at the suggested crosslinker 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 catalyst and inhibitor levels as well as ambient conditions. In general, the suggested formulations in Table II will have a minimum bath life of 8 hours.

## **BATH PREPARATION**

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

1. Weigh and add base polymers (SL6625/SL6635) to a clean, rust-free container/mixing vessel.
2. Agitate thoroughly.
3. Weigh and add the crosslinker (SL6020-D1 or SS4300c) to above mix.
4. Agitate thoroughly for 10-15 minutes to ensure homogeneity.

Bath should be prepared just prior to use.

## **Coating Weight/Substrates**

The SL6625 release coating system is suitable for a variety of papers. These include supercalendered kraft, glassine, clay coated kraft, etc. Coating weight will depend on the hold out and resolution of the surface, but generally 0.8-1.6 g/m<sup>2</sup> (0.5-1.0 lbs/3000 ft<sup>2</sup>) will provide a continuous silicone film.

Coating weights are 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

### FDA STATUS

The SL6625 release coating system without a tight release polymer complies with the following FDA regulations:

- 175.320, resinous and polymeric coatings for polyolefin films
- 176.170, components of paper and paperboard in contact with aqueous and fatty foods
- 176.180, components of paper and paperboard in contact with dry foods for use as release surfaces for pressure sensitive adhesives.

Consult these regulations for limitations of use with respect to platinum content, food type and use conditions. Tight release polymer SL6635 may only be used as a release coating for pressure sensitive adhesives under regulation 176.180.

### Availability

All components of the SL6625 system may be ordered from Momentive Performance Materials, Waterford, NY, 12188, the Momentive Performance Materials sales office nearest you or an authorized Momentive Performance Materials distributor.

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