Technical Data Sheet

SilForce™ SLP61S Solventless Coating

Coating System for Paper Release

Product Description

This thermal solventless release coating system is Momentive's latest technology for enabling
Low Pt formulations with sustainable aged anchorage. Its medium viscosity vinyl polymer can enable the reduction of silicone consumption, while maintaining good silicone coverage for stable release performance. SilForce SLP61S coating is an excellent candidate to consider for Glassine, CCK and SCK papers.

Product references

SilForce SLP61S: Base polymer
SilForce SLP30: Controlled release additive SilForce SLP20: Crosslinker for papers
SilForce SLP10: Concentrated platinum catalyst

Key Features and Typical Benefits

- High formulation flexibility
- Enhanced crosslinkers for good anchorage of the release coating
- Reduced silicone usage leading to productivity gains
- Low to no misting at high production speeds

Potential Applications

The SilForce SLP61S coating system is an excellent candidate to consider for paper release liner substrates, such as Glassine, CCK and SCK papers.

Typical Physical Properties

Property	SLP61S	SLP30
Viscosity, mPa.s, 25°C	170 - 300	1500 - 2700
Density, kg/l	0.97	1.04

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

General Considerations for Use

Typical starting formulations[1] for Glassine papers at a catalyst level of 20 ppm

Component	0% CRA	10% CRA	20% CRA
SilForce SLP61S	98	88	78
SilForce SLP30	-	10	20
SilForce SLP20	4.05	4.8	5.6
SilForce SLP10	2	2	2

Important Note: The starting formulations provided in the table above are based on cure optimization. Unstable (high) release may occur with some adhesives like self-crosslinking solvent based acrylics and UV hot melt, at the suggested crosslinker levels. Please contact a Momentive Performance Materials technical service representative for further information.

Application

The solventless release coating system can be applied by many of the methods now being used commercially for solventless silicone, including three rolls differential offset gravure and various multiple smooth rolls configurations. Heat should be applied immediately after coating to initiate cure. Best results are typically obtained with zoned ovens. Operating the first oven zone at 90-150°C will allow the coating to level, forming a continuous film before cure is initiated. Subsequent oven zones should be sufficiently high in temperature 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 for a finite time (= dwell time) to obtain complete cure, such time being dependent on oven length and the line speed.

Bath life

The working life of a catalyzed bath will vary depending on ambient conditions. In general, the typical formulations in the table will have a minimum bulk bath life of 4 hours under normal processing conditions.

The thin film bath life of the SilForce SLP61S system is significantly shorter than the thin film bath life of the SilForce SL6600 and SilForce SL6625 systems, therefore “proper cleaning” of the coating head if the machine is stopped for more than 20 minutes is recommended. At high catalyst level (more than 75 ppm platinum), thin film

bath life with the SLP61S system can be shorter.

1 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

Bath preparation

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

1. Weigh and add SilForce SLP61S system to a clean, rust-free container/mixing vessel
2. Weigh and add the crosslinker (SilForce SLP20 crosslinker for example) to the above material
3. Agitate thoroughly for 5 minutes with a good vortex
4. Weigh and add the catalyst (SilForce SLP10) 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 of the surface, but generally 0.8-1.4 g/m2 (0.48-0.84 lbs/ream) will provide a continuous silicone film.
Coat weights should be determined by x-ray fluorescence.

Regulatory Compliance

The SilForce SLP61S system is compositionally compliant with the following US regulations:
21 CFR 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). SilForce SLP30 controlled release additive is compositionally compliant with 21 CFR 175.320 (resinous and polymeric coatings for polyolefin films).

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.

Please review the use-before/expiration date on the product label and certificate. Keep away from moisture and store it in a dry location. The SilForce SLP61S container should be properly closed after taking the materials needed for the bath and tightly capped to avoid prolonged exposure to moisture.

Limitations

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

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