

SilForce™ SL7562S Solventless Coating

Description

SilForce SL7562S thermal solventless release coating is an excellent candidate to consider for glassine papers as well as for filmic liners. This new polymer provides a flat release profile and fast cure at a low level of catalyst; e.g. : 40 ppm or even lower may be adequate on glassine paper under standard processing conditions. The medium-low viscosity of this vinyl polymer can enable the reduction of silicone coat weight while maintaining good silicone coverage for stable release performance. The SilForce SL7562S polymer was developed to help address the needs of fast labelling dispensing machines that requires a flat release profile in order to assure a smooth process at high line speed.

Product References

SilForce SL7562S: Base polymer

SilForce SL6031: Controlled Release Additive⁽¹⁾

SilForce SL4380: Crosslinker for papers[#]

SilForce SL6210: Concentrated catalyst (Pt)

⁽¹⁾other CRA's may be suitable for this base polymer (please contact a technical expert from Momentive for assistance)

[#]depending on the substrate and/or the processing conditions other crosslinkers may be considered

Key Features and Typical Benefits

- Flat release profile (for fast dispensing labeling lines)
- New technology allowing for low level of catalyst for fast coater
- Versatile system for paper and filmic substrates (i.e. Glassine, PET)
- High formulation flexibility
- Enhanced crosslinkers for good anchorage of the release coating
- Potential productivity gain in terms of machine capacity & energy
- Easy processability allowing coating at high speed without misting and excellent coating

quality

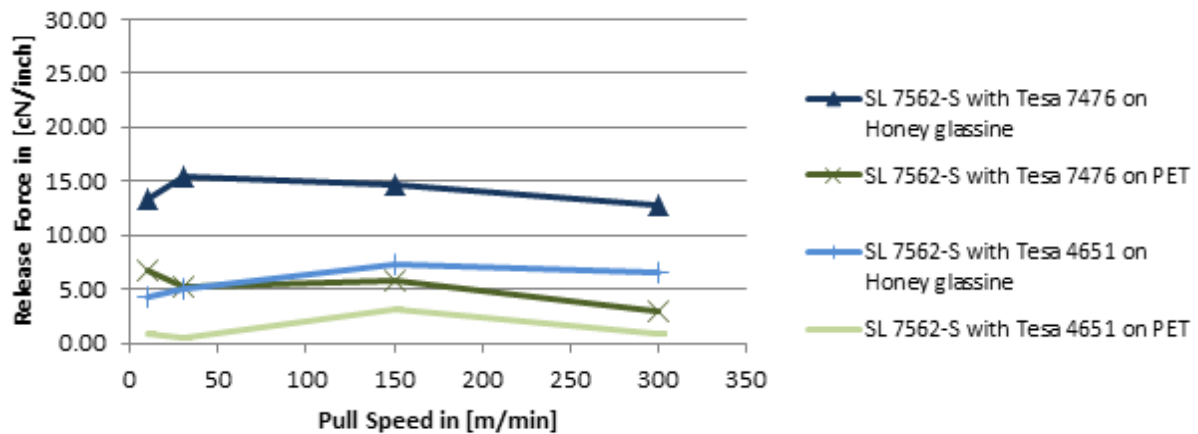
Typical Physical Properties

Property	SilForce SL7562S Polymer	SilForce SL6031 CRA
Viscosity, mPa·s, 25 °C	170 - 230	1500 - 2700
Density, g/cm ³ (25 °C)	0.97	1.04

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

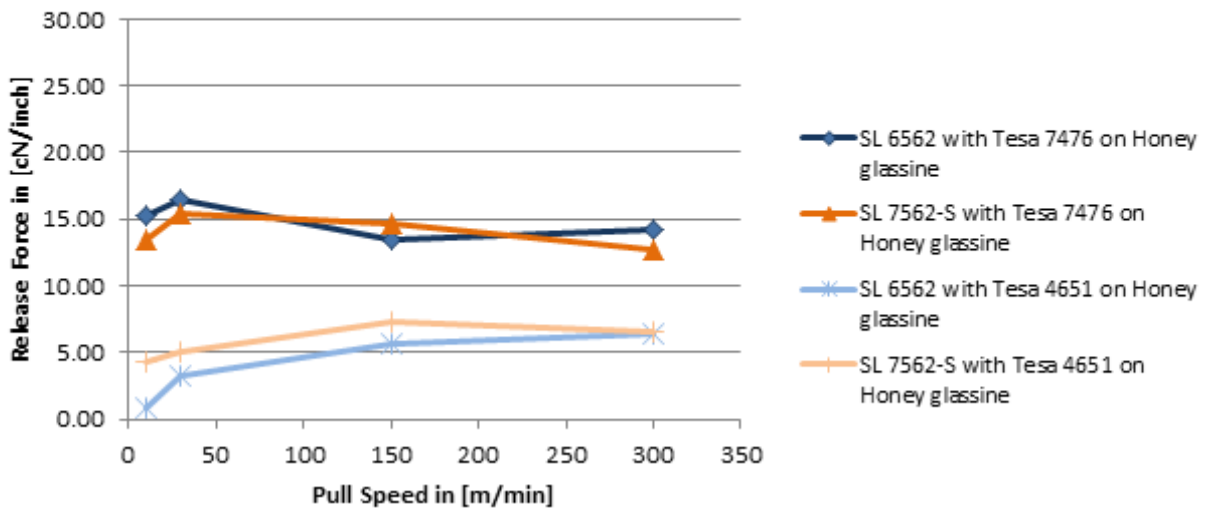
Typical Release Profile

High Speed Release Test / FINAT 4 (Ageing 24 h @ RT)



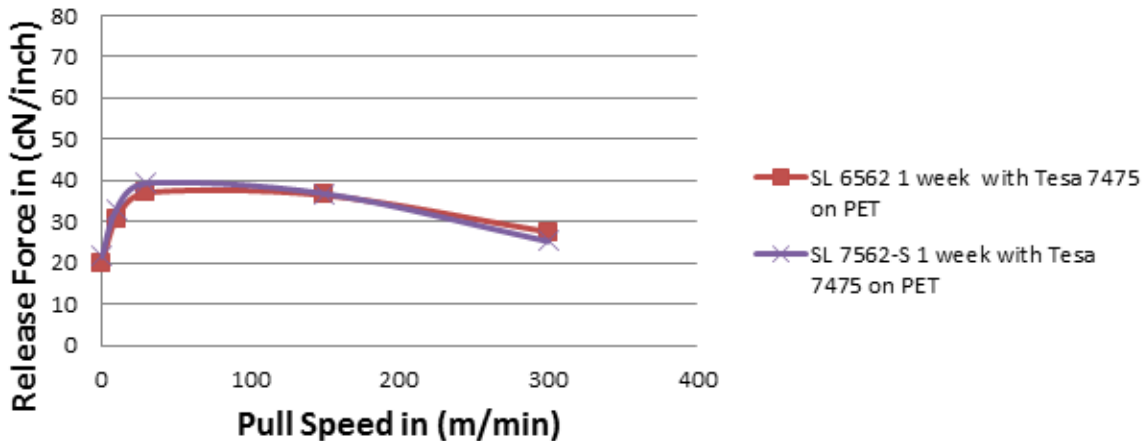
Note: Test data. Actual results may vary.

High Speed Release Test / FINAT 4 (ageing 24h @ RT)



Note: Test data. Actual results may vary.

High Speed Test / Finat 4 Ageing 1 week @ RT



Note: Test data. Actual results may vary.

Potential Applications

SilForce SL7562S coating may be considered for use with standard liners used in the label industry, such as:

- Glassine paper
- SCK paper

- Clay Coated Kraft (CCK) papers
- PE coated papers
- PET film
- Polyolefin films

SilForce SL6031 controlled release additive is compositionally compliant with 21 CFR 175.320 (resinous and polymeric coatings for polyolefin films). The end user has sole responsibility for determining that their product complies with all applicable FDA specifications and limitations and is fit for food contact use.

General Considerations for Use

This solventless release coating system can be applied by many 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 90-150 °C may 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 to obtain complete cure, such time being dependent on oven length and the line speed (e.g. dwell time).

Typical starting formulations for glassine papers at a catalyst level of 40 ppm

Component	0% CRA	10% CRA	20% CRA
SilForce SL7562S polymer	96	86	76
SilForce SL6031 CRA	-	10	20
SilForce SL4380 crosslinker	8.4	8.6	8.8
SilForce SL6210 catalyst	4	4	4

Note: Test results. Actual results may vary.

Important Note:

The example starting formulations in the table are based on cure optimization. Destabilized (high) release may occur with some adhesives like self-crosslinking solution acrylics and

UV hot melt, at the suggested crosslinker levels. Please contact a technical expert from Momentive for assistance.

Bath life

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

The thin film bath life of the SilForce SL7562S system is significantly shorter than the thin film bath life of the SilForce SL6600 and SilForce SL6625 systems, therefore we recommend to have a “proper cleaning” of the coating head if the machine is stopped for more than 20 minutes.

At high catalyst level (more than 80 ppm Platinum) bath life with the SilForce SL7562S system 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 SL7562S system to a clean, rust-free container/mixing vessel
2. Weigh and add the Controlled Release Additive (CRA) (SilForce SL6031 CRA for example) if needed into the recipe
3. Agitate thoroughly
4. Weigh and add the crosslinker (SilForce SL4380 crosslinker for example) to the above material
5. Agitate thoroughly
6. Weigh and add the platinum concentrate (SilForce SL6210 concentrated catalyst) to above mix
7. 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 will provide a continuous silicone film.

Coat weights can be determined by X-Ray Fluorescence.

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.

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