SilForce* SL6062 Release Coating

Product Description
This thermal solventless release coating is an excellent candidate to consider for kraft, art and open papers, where the porosity is relatively high compared to classical glassine or SCK liners. The high viscosity vinyl polymer can enable the reduction of silicone consumption while maintaining good silicone coverage for stable release performance.

Product References
SilForce SL6062 base polymer
SilForce SL6031 controlled Release Additive (1)
SilForce SL4380 cross-linker for papers (2)
SilForce SL6210 controlled release additive

(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 open paper substrates (e.g. kraft papers)
- High formulation flexibility
- Enhanced cross-linkers for good anchorage of the release coating
- Potential productivity gain in terms of silicone usage

Potential Applications
The SilForce SL6062 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 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 its product complies with all applicable FDA specifications and limitations and is fit for food contact use.

Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>SilForce SL6062</th>
<th>SilForce SL6031</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity, mPa•s, 25°C</td>
<td>350 - 450</td>
<td>1500 - 2700</td>
</tr>
<tr>
<td>Density, kg/l</td>
<td>0.97</td>
<td>1.04</td>
</tr>
</tbody>
</table>

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

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 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.

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

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### Component

<table>
<thead>
<tr>
<th>Component</th>
<th>0% CRA</th>
<th>10% CRA</th>
<th>20% CRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SilForce SL6062 base polymer</td>
<td>96</td>
<td>86</td>
<td>76</td>
</tr>
<tr>
<td>SilForce SL6031 controlled release additive</td>
<td>-</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>SilForce SL4380 cross-linker for papers</td>
<td>3.1</td>
<td>3.8</td>
<td>4.6</td>
</tr>
<tr>
<td>SilForce SL6210 concentrated catalyst</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

### Important Note:

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

### 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 under normal processing conditions.

The thin film bath life of the SilForce SL6062 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 SL6062 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 SL6062 system to a clean, rust-free container/mixing vessel
2. Weigh and add the cross-linker (SilForce SL4380 cross-linker for example) to the
above material
3. Agitate thoroughly for 5 minutes to ensure homogeneity
4. Weigh and add the platinum concentrate (SilForce SL6210 concentrated catalyst) 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 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.

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