

SilForce™ UV9500 Release Coating

SilForce* UV9500 Release Coating

Description

UV9500 release coating is a photocurable epoxysilicone polymer blend developed for applications where premium release from aggressive crosslinking acrylic PSAs, highly tacky mastics and asphalt materials, and hydrogel adhesives is required. UV9500 includes a patented epoxysilicone polymer component which, when properly photocured, releases the most aggressive adhesives more easily than other epoxysilicone coatings. UV9500 coatings display a strip speed profile similar to that of conventional thermal cured solventless silicone release agents, making them useful for high speed converting applications. UV9500 is blended with UV9380C or UV9390C prior to use. UV9500 - containing formulations may have a tendency to promote some silicone migration and backside transfer of unreacted silicone residues.

Key Features and Benefits

- Premium release
- Reduced or no initiation spike
- Fast photocure response in air atmosphere
- Excellent performance on thermally sensitive film and film-laminate liner
- Stable aged release from crosslinkable acrylic PSAs

Typical Physical Properties

| Property | UV9500 Value |
|--------------|-----------------------|
| Solids, wt%* | > 98.5% Specification |

| | |
|---------------------|---|
| Viscosity, cstk 25C | 300 cstk (Ostwald) |
| Epoxy Equiv. Weight | 1200 g/mole oxirane (Potentiometric Titre) |

*45 minute wt loss @ 150C

Potential Applications

UV9500 coatings are best suited to film and plastic laminate substrates. Fast cure and stable release are obtained on glossy liners such as polyethylene coated kraft (PK), LDPE, HDPE, and certain grades of polyesters. 100 parts of UV9500 are blended with 1-2 parts of UV9380c or UV9390c for use on such substrates. Film and plastic laminates should be corona treated to > 40 dynes before application of silicone, preferably in-line, to insure adequate anchorage. Typical release performance for UV9500 coated and UV cured on PK liner is depicted in Figures 1 and 2.

Figure 1

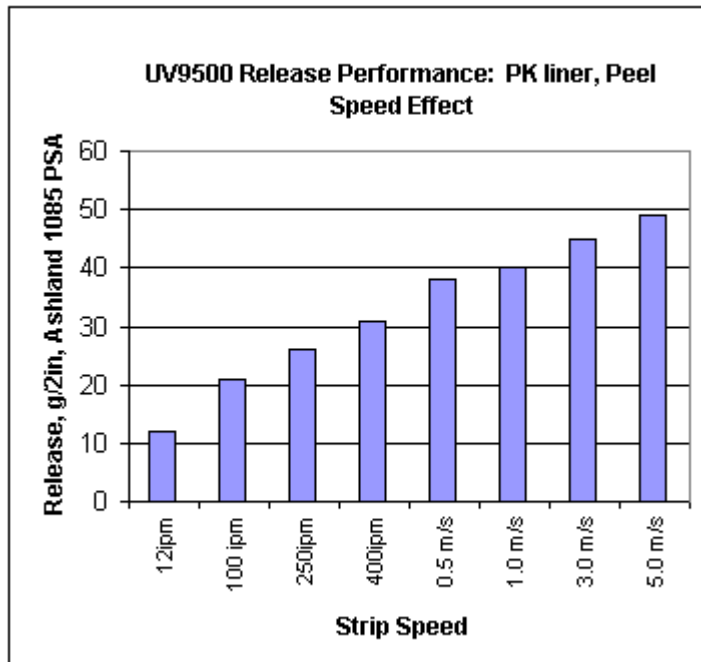
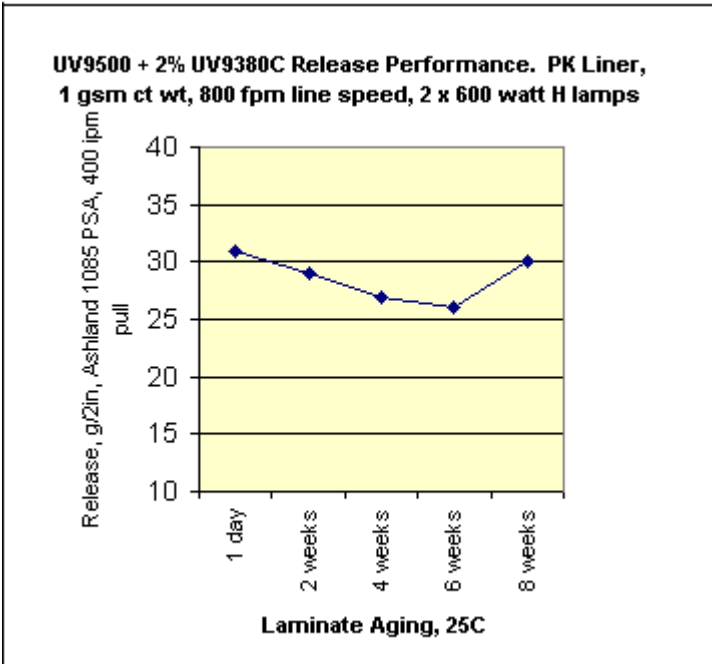


Figure 2



Substrates

The UV9500 system provides excellent performance on most plastic substrates. Maximum cure rate and maximum line speed is obtained on substrates having a gloss finish such as polyethylene coated kraft, polyethylene film, polyester, polypropylene film and polystyrene.

All plastic substrates should be corona treated prior to coating in order to obtain good adhesion. Treatment should be in the 45-50 dynes/cm range as measured by ASTM D-2578 wetting test. Corona treatment may be done in-line just prior to coating, or off-line up to 30 days in advance of coating.

On the above substrates, speeds of 500-600 fpm can readily be attained with two lamps. (See UV Lamps section of this data sheet for further reference). The use of paper substrates with this system is limited to highly densified glassines and acidic-sized sheets with superior hold-out.

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

The warranty period is 12 months from date of shipment from Momentive Performance Materials if stored in the original unopened container at temperatures no greater than 25°C (77°F).

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.

Processing Recommendations

Product Use

UV9500 is blended with UV9380 c or UV9390c catalyst immediately prior to use, 1-3 phr of catalyst are recommended depending on substrate. The catalyzed bath may be applied to liners by means of standard solventless silicone coating techniques including 3 roll offset gravure, multiroll film splitting coaters, and direct or offset gravure. Baths can be nip fed, pan fed, or applied to gravure cylinders by direct slot feed tubes or other methods. The coated silicone should be exposed to focused UV lamps to effect rapid crosslinking.

UV Lamps

The UV9500 polymer is catalyzed with UV9380c or UV9390c catalyst solution. Both catalysts include an active iodonium salt ingredient which is a deep UV absorbing

species, with most absorbance < 300 nm wavelength(seeUV9380c or UV9390c data sheet for more details). Medium pressuremercury vapor lamps, either microwave fired types or standard arc design, are therefore recommended for good cure of UV9500 coatings.

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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For literature and technical assistance, visit our website at: www.momentive.com

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