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Adhesives and Coatings

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UV Laminating Adhesives

UV curable laminating adhesives are used for paper-to-film and film-to-film applications. The following information should provide a basic guideline for applying and getting the best performance from Craig's UV curable laminating adhesives.

APPLICATION

UV laminating adhesives may be applied by roll coaters, gravure, and flexo equipment.

In line corona treatment to 42-48 dynes is suggested for best results. Dyne levels of 38 or lower usually result in inconsistent and poor adhesion.

Typical coating weights are from 0.10-0.15 mils for film-to-film and 0.15-0.25 mils for film-to-paper applications. Anilox roll suggestion ranges from 390 to 600 line screen with adequate nip and roll pressure before passing under the UV lights. A smooth, even nip pressure is extremely important to the bond of the laminant. If adhesion is sporadic or "bubbles" can be seen, try adjusting the nip pressure.

Typical line speeds range from 200-400 fpm (using one to two 400 WPI lamps), but may be lower or higher depending on number and type of lamps.

Film Selection

Films need to be checked for light transmission as each film absorbs UV light at different rates and will be proportionately detrimental to the cure of this product. The more UV light that is absorbed by the film, the less UV light there is available to cure the adhesive. Some of this can be overcome by using a "doped" bulb (i.e. iron, gallium, etc.) which penetrates **deeper** than the common mercury bulb. Mercury bulbs are better for **surface** curing and since the film is on the surface, it absorbs a large percentage of this light. "Doped" bulbs emit longer wavelengths of UV light and, as a result, penetrate below the film layer more efficiently to reach the adhesive lower. Consult your lamp supplier for more information if you are having cure problems.

The following films have been measured for UV light absorption:

Polyester (30-50% UV light absorption)

Polypropylene (5-10%)

Polyethylene (10-18%)

Test individual films for adhesion and compatibility before running

MISCELLANEOUS

Avoid contamination with silicones and other coatings as this can lead to failure of the adhesive.

Some inks or press varnishes may be incompatible with UV laminating adhesives. Please test for compatibility before running on press.

When using UV curable laminating adhesives, refer to Technical and Material Safety Data Sheets for more specific handling, safety, and application information or contact a Technical Service Representative.

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