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WB Coupon Constructions

Coupon constructions are typically used for instant redeemable coupons (IRC), temporary membership cards, or for promotional pieces. The components used in these constructions require carefully controlled application in order to achieve consistent results. The following information should provide a basic guideline for applying and getting the best performance from Craig's WB and WB/UV coupon products.

ADHESIVES

The adhesive can provide either a non-tacky, dry peel or a slight, residual tack. Please contact us for our most recent product offerings.

SUBSTRATES

For one-part applications, base substrates are release coated papers or untreated films such as polystyrene, polypropylene, and polyester. The top-ply substrate should be C1S. The adhesive must be applied to the uncoated side of the C1S. This side is more porous allowing the adhesive to absorb into the paper and form a better bond. Applying glue to the coated side is not recommended due to the possibility of failure at the paper coating layer.

If applying a UV coating to film to achieve release properties, the substrate should be print treated.

Surface tension of the film, substrate thickness, and amount of UV release coating and degree of cure will all affect the type of adhesive and coating weights of both the glue and release coating. Generally, the thicker and more rigid the substrate, the tighter the release needed. This may require more adhesive, a different adhesive, or variations in the release properties of the film or UV coating. If applying UV coating to paper, it is imperative to get enough coating down to coat all paper fibers.

APPLICATION

WB coupon adhesives and release coatings should be applied via doctor bladed flexo applications in order to better control coat weights.

Anilox volumes used for the adhesive typically range from 4-15 bcm depending on the substrates and properties desired from the finished product. For the UV release coating, they range from 2-8 bcm. Please read this document in its entirety to get an understanding and more direction on which anilox configurations will work for your specific construction.

Film to Paper One-part: Used for constructions where there is no print on the base layer. Apply dry peel adhesive to film then nip in uncoated side of C1S for a wet lamination.

Film to Paper Two-part: Used for constructions where base layer is printed. Requires an adhesive and a UV coating to protect the ink and provide release properties. Print (if desired) the base layer. Apply UV coating and cure. Apply adhesive to cured UV coating then nip in uncoated side of C1S for a wet lamination. It is possible to print the uncoated side of the C1S, but heavy ink coverage and improper drying could cause ghosting and picking.

Paper to Paper One-part: Used for constructions when only one station is available outside of printing for creating coupon. Requires use of an adhesive that will leave residual tack. Print, apply adhesive and dry. This may be done by wet lamination depending on substrates and coating weights. This is a different type of product than has been covered by this technical document. Please call Craig for more information if you are interested in this type of construction.

Paper to Paper Two-part: Similar to film to paper two-part. Requires use of a UV coating on one layer to provide release properties. Print, apply UV coating to either layer and cure. Apply adhesive, and then nip in uncoated side of C1S for a wet lamination.

QUALITY CONTROL

It is imperative that strict quality controls be established for application and aging. The following areas need to be addressed and controlled.

- Substrates
  - Films - Surface tension of the film can be measured by dyne level. When applying adhesive as a one-part system directly to film, we have seen the best results if the surface tension is 34 dynes or less. This can vary by film type and film manufacturer. When applying a UV coating for release properties to film, the dyne level needs to be 40+ for proper adhesion to the film.
  - Paper - The absorptiveness of papers varies by vendor, grade, etc. When applying a UV coating to achieve release properties, it is important that the coating does not "dive" into the stock. This could leave fibers exposed for the adhesive to bond to and lead to picking or lock up. It is also important to pay attention to any variations in adhesive bonding on the uncoated side of the paper.
  - Substrate thickness – Thicker, more rigid substrates will typically require a tighter bond in order to hold the construction together during processing and dispensing. This can be accomplished by increasing the amount of glue and varying the release level of the UV coating. In some cases, a different glue or UV coating may be needed. Please consult Craig for further information.

- Press Conditions

  - Aniloxes and Doctor Blades- Worn anilox cells and doctor blades can cause inconsistent and uneven application leading to variations in performance. Some coupons may lock up or tear and some may dispense too easily across the web. Aniloxes need to be established and inspected regularly for both the adhesive and the UV coating. They also need to be identified for each type of construction. If the paper or film is changed, it is likely that the aniloxes will have to be changed.

  - Monitor Adhesive Properties – The solids of the adhesive need to be kept within the range they are received. If water starts to evaporate out and solids climb, the adhesive will become more aggressive.

  - Speeds- Speeding up or slowing down the press will affect the cure of the UV coating. Once full power has been reached cure will begin to deteriorate with increased speed. This will affect the release properties of the coating. Slower will provide longer exposure, increase cross-linking, and cause release to become easier. Faster will provide less exposure, decrease cross-linking, and cause release to become tighter.

- Establish Release Values
  - If you do not have a formal method for measuring release levels, at least perform pass fail monitoring of the adhesive off press, at 24 hours, and at different points in the life of the coupon.

  - If you have a peel tester, determine peel/release values required for pass/fail.
    - Determine for each different type of construction (various substrates).
    - Determine peel values right off press and upon aging (24-48 hours).

- Storage – Store all finished product in controlled temperature environments. Sudden changes in temperature and humidity can adversely affect release values leading to pre-dispensing or lock up. Monitor coupon performance over time and from season to season to gain a better understanding of your environment and how it affects you coupon performance. We generally see more issues when coupons are stored or shipped in high humidity conditions. Inform your customers of these affects.

PRECAUTIONS

Before running these products on a job, it is recommended that they be tested for the specific application for which they were meant. Aging tests should be performed for adhesive-to-release coating and substrate compatibility as well as different coating weights, cure speeds, and finished application surfaces.

Refer to Technical and Material Safety Data Sheets for handling, safety, and physical property information or contact a Technical Service Representative.

REV: 052708 Information will be updated as it becomes available.