Photo-Reactive Adhesive Technology

Background

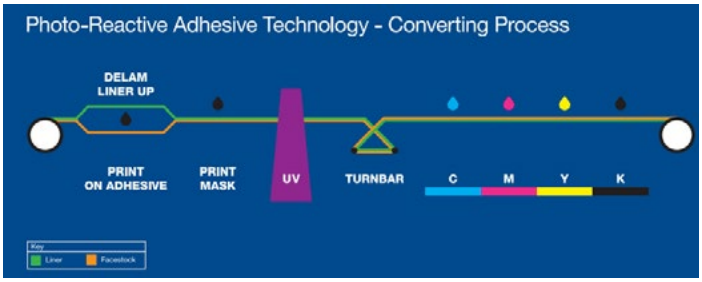
Photo-reactive adhesive technology helps converters create customized constructions that require both permanent and removable adhesive zones, for applications with extended content, such as promotional or seasonal labels.

The purpose of this bulletin is to provide the converter with recommended practices pertaining to press set-up, ink selection and other general manufacturing guidelines important in the converting process for this technology. Each press, process and application is very unique; therefore further modification may be needed with respect to each unique press or process.

Material & Equipment Requirements

Required material and equipment includes the following:

- Photo-Reactive Spec#: 79637 - 2M WH BOPP TC / PR1000 / 40# BG
- A flexographic converting press with UV curing station
- A turn-bar or reverse print station



Methods - Extended Content Example

1. Begin by webbing the press liner up, coming off the bottom of the roll. If printing on the adhesive, proceed to step 2. Otherwise, skip directly to step 3.
2. In the first print station, de-laminate the liner from the laminate. Web the liner over the print station allowing you to print directly on the adhesive.
   - If printing water-based inks directly on the adhesive, the adhesive web will go through the dryer while the liner will go over the top. The two will be re-laminated at print station 2, utilizing a tint sleeve or print station laminating nip.
   - If printing UV inks on the adhesive, de-laminate again just before station 1. Print on the adhesive and then re-laminate on the exit side of station 1, wet-laming the liner to the uncured ink and adhesive. We have tested and successfully cured UV inks through the BG liner several times.
3. Proceed by printing the mask on the liner with either water-based or UV inks. Change the functionality of the adhesive in the unmasked sections from permanent to removable by exposing the liner side of web to UV light. To ensure that the permanent (masked) areas stay permanent, confirm that the mask is dense enough to be UV blocking. A good rule of thumb is that a print density of 2.0K is typically UV blocking.
4. Flip the web using the turn-bar.
5. Print the surface graphics using water-based or UV inks. You can apply a UV over-varnish or laminate (UV light cannot penetrate the BOPP face sheet).
6. Die cut as needed.
7. Rewind the finished label.
8. If you want to construct a multi-panel extended content (booklet) label you would insert a pressure-sensitive laminate BOPP or other film web after printing your last color on the surface.
   - The photo-reactive adhesive product would be webbed to go over the last print station.
   - The base web would come in from below into the last print station where it would be printed water-based or UV.
   - The liner is removed from the photo-reactive web.
   - The photo-reactive web is laminated to the printed base ply.
   - The die cuts through both layers to the liner of the base ply.