

USING UV CLEAR COATS

UV clear coats (inks cured by ultraviolet light) are typically applied for added gloss, abrasion resistance, matte or texturized finishes, and ink protection.

When using UV clear coats with pressure sensitive stocks, precautions must be taken. Follow these guidelines to avoid complications:

- **Deposit a layer of clear coat thin enough for full polymerization.** A very thick deposit may not cure properly. Post-cure causes the label to curl up and away from the liner or substrate, resulting in adhesive delamination and labels that predispose.
- **Make sure a cool curing system is used with clear coats for pressure sensitive stocks.** If these stocks are exposed to too much heat, temperatures may alter the chemical structure of the adhesive, affecting its end-use performance.
- **When UV clear coats are used over oxidizing inks, make sure the two systems are compatible.** Test the application if you have any doubts.

FREQUENTLY ASKED QUESTIONS

What if the edges of the sheet dry faster or slower than the center? **The fountain solution delivery may be uneven. Check the solution balance.**

Is it possible to protect the label from rubbing or scuffing? **Check with your ink manufacturer for waxes and slip aids to prevent pulling.**

What's wrong if the ink smudges? **The cause may be too much additive. Use minimal amounts of dryer and waxes.**

The dryer doesn't seem to influence the ink. What can be done? **Try using a smaller amount of a more concentrated dryer.**

To be absolutely sure that the ink you've chosen will work with the label, MACtac® recommends thorough testing. Discuss the project with your suppliers. Tell them you're printing on a non-absorbent stock; specify the stock being used; and provide samples of the stock for testing.

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MACtac® Starliner® Tips

TIPS FOR OFFSET PRINTING SPECIALTY
PRESSURE SENSITIVE PRODUCTS:
POLYESTERS, VINYLs, FOILS AND ACETATES



Printing specialty pressure sensitive products is not difficult, however, the nature of these materials requires special considerations to ensure optimum results.

First and foremost, these products require an oxidizing ink. Because many pressure sensitive label applications are demanding, the inks chosen for the job must be able to perform under less than optimum conditions.

For example, labels used in packaging applications could benefit from an ink that is scuff-resistant. The inks used on bumper stickers and pressure sensitive signage, such as retail windows, will stay true longer if they are resistant to ultraviolet light. Even fabric name badges will print more easily and smoothly with the right ink despite irregular surfaces.

CHOOSING THE RIGHT INK

Selecting an ink for a specialty stock is an easy task for most printers. A quick consultation with the ink supplier will yield the appropriate ink recommendations. And, if the stock is unfamiliar, running drawdowns on sample stock should provide the answer.

As a general rule: Use an oxidizing ink on any pressure sensitive facstock that is not absorbent. This includes vinyl stocks and plastic coatings as well as heavily-coated sheets that could be considered non-porous. Oxidizing inks (often called "special" inks) require oxygen from the air to dry, whereas standard inks dry by absorption into the facstock.

Use recommended pressure sensitive stocks with oxidizing inks for these popular applications:

Packaging. Rely on laminated foil and polyester label stocks for an eye-catching and visually appealing result.

- ★ **Spotlite/Silver Polyester:** Ideal for reflective mirror-finish labels, especially when used with fluorescent inks. Resistant to many solvents and extreme temperatures.
- ★ **Theatre Dull Silver:** Topcoated for easy printing. Improves quality of all packaging applications.
- ★ **Playhouse Bright Silver:** Gives a high-tech look to nameplates, emblems, electronic controls, audio components and appliance labeling.
- ★ **Byzantine Dull Gold:** Ideal for ornate package labeling, premium sporting good emblems, distinctive gifts, premiums and seals.

- ★ **Balcony Bright Gold:** Lends a luxurious "imported look" to cosmetics, gourmet foods, specialty beverages and boutique gift lines.

Promotional signage. Apply a clear polyester topcoat or acetate in signage applications (two-way signage, P-O-P displays) that require a clear material. Recommendations include:

- ★ **Charade Clear Polyester:** A "disappearing" label on dark surfaces. Heavy duty for easy applications and extra durability.
- ★ **Vignette Clear Acetate:** Perfect for indoor applications.

Indoor and outdoor. Vinyl labels are ideal for both indoor and outdoor applications, including:

- ★ **Debut White Vinyl:** Very conformable with exceptional outdoor life (depending on the application).
- ★ **Prestige White and Matte Clear Vinyls with repositionable adhesive:** Up to six months usage depending upon cleanliness of surface. These products are an extremely versatile alternative to static cling.
- ★ **Premiere White Polypropylene with permanent adhesive:** This clay-coated, tear-resistant film looks, feels and prints like fine paper. Premiere is 100 percent waterproof, and inks quickly anchor into its surface, yielding superb print definition.

Applications requiring a name badge.

- ★ **Chorus Satin Acetate:** This satin rayon cloth is ideal for name badges. Chorus easily conforms to clothing and is recommended for short-term (24 hours) usage. Do not apply to suede, silk, leather, corduroy or sequins.

ALMOST THERE

The ink is chosen, but the job is only half done. Now, it's up to the printer to control press variables, resulting in superior print quality and eliminating drying or adhesion problems. Here are a few hints:

- **Less is more.** Use a minimum amount of ink when printing with oxidizing inks. A good rule is just enough for the coverage needed.
- **Monitor fountain solution.** Non-absorbent papers are unable to accommodate large amounts of fountain solutions. So, use as little as possible. Avoid a citric acid or glycerin

fountain solution as they may slow drying. And, prevent water from being milled into the ink by minimizing pressure settings.

- **Check pH level.** Use a pH of 5.0 to 5.5. A fountain solution that's too acidic can inhibit the drying of oxidizing inks.
- **Be careful with ink additives.** Pay close attention to the amount of dryer additive. Typical formulations are 1/2 ounce per pound of ink. Too much additive can interfere with drying or cause the ink film to be too soft. Increase the amount of dryer if humidity in the pressroom is high (between 80 and 90 percent).
- **Mix dryers thoroughly.** Inadequate mixing can cause sheets to dry unevenly.
- **Use metal plates.** Do not use paper plates with paper plate chemistry. They can inhibit the drying of oxidizing inks.
- **Run smaller lifts.** Weight will compress the lift, drive out the oxygen from between the sheets, slow the drying process of oxidizing inks and contribute to set-off problems. A maximum lift of 1 1/4-inch works best.
- **Use 25-35 micron-size spray particles.** If a spray powder is necessary, choose a formulation with a larger size, which reduces the amount of powder that will be needed.
- **Bring stock to room temperature 24 hours before presstime.** Vinyl- and plastic-coated stocks tend to retain their temperature. If these materials are stored in a cold warehouse, allow them to acclimate to room temperature before printing. If not allowed to "warm-up," the stock can rapidly increase the viscosity of the oxidizing ink. As a result, the ink will set, but not dry, resulting in smudge, set-off and end-use problems.
- **Avoid adding too much compound.** Use minimal amounts of dryers or wax compounds. An overabundance could result in ink smudging.
- **Expose sheet to oxygen.** Sufficient exposure to oxygen is critical if printing heavy coverage toward the center of the sheet. Without oxygen, heat build-up can occur in the center of the sheet while dissipating at the edges. The result: pigment being left without vehicle. Run short lifts and wind sheets if necessary to bring more oxygen into the stock.
- **Ink dries faster at higher temperatures.** Drying time is reduced approximately 25 percent for every 10° F increase in temperature.