

Pressure-Sensitive Overlamination Tips

Pressure-sensitive overlaminates are commonly applied to label substrates to provide a barrier to protect the label or to enhance the appearance of labels by adding gloss or matte surface characteristics. As a protective barrier, overlaminates can aid in resistance to abrasion, water or high moisture conditions, chemicals or ink fading. More recently, overlaminates are used to add a printable surface for certain kinds of printing process such as thermal transfer.

In order to achieve an acceptable appearance and maximum protection, it is important to follow a few preparation steps prior to applying the overlaminate. These steps will ensure the overlaminate will attain maximum adhesion to the label, provide protection and give the desired appearance.

- Acclimate to the same temperature
- Substrate free of dust and debris
- Minimize or eliminate static
- Adequately dry inks
- Use inks free of surface surfactants (silicone, wax)
- Apply under equal tension

Temperature

Keeping the temperature of the substrate and overlaminate the same will prevent stress between the two after lamination due to uneven shrinkage or expansion as they both approach the same temperature. Most objects expand as they heat up; shrink as they cool down. If the substrate and overlaminate are not at equal temperatures when laminated, wrinkles or puckers will form as they approach the same temperature. Sometimes overlaminates are heated slightly after lamination to improve or speed up wet out. This is an acceptable practice if the heat is applied after lamination and temperatures are kept reasonable.

Cleanliness

Any dirt or debris on the substrate just prior to overlamination will be trapped between the substrate and the overlaminate. In most cases, the appearance will be adversely affected. Air bubbles or "snow flakes" may be present and do not wet out with heat or aging. In severe cases the overlaminate will not achieve proper adhesion and barrier protection will be compromised. Sometimes vacuuming or tack cloths can be helpful in extreme cases.

Blowing dust off is not an advisable method to handle dust, dirt or debris because it will only go somewhere else and cause other problems.

Static

Static attracts dirt but can be controlled by keeping the environment humidified (Relative Humidity above 50%), grounding all the equipment, and using simple static control devices such as tensile, string, or air discharge devised made for this purpose.

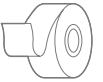
Cured Inks

Inks should be adequately dry. Wet inks not well cured will keep the overlaminate from achieving the maximum adhesion. Uncured ink may even bleed into the overlaminate adhesive causing ghosting or image blurring.

Surfactant Free

Many inks contain additives known as surfactants to help ink flow or even to impart certain characteristics. Sometimes they are used to obtain abrasion resistance or mild chemical resistance such as detergents. By their nature, they prevent 'things' from sticking to them; even overlaminate adhesives can be affected. This is particularly true for flood coated or large print areas. Since overlamination provides superior protection, the inks don't need these additives.

Consult your ink manufacturer. Let them know you will be overlaminating your substrate and don't want the inks to interfere with the adhesive adhesion. If in doubt, conduct a small test run with the ink colors you intend to use and check the adhesion of the overlaminate. Test runs are also useful to check ink curing and bleeding with the overlamination.



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Tension

Uneven tension between the substrate and overlaminate will cause curling. The finished label will curl towards the item that was under the highest tension. The curl will be uneven and sometimes described as a "potato chip" appearance. This may cause pre-dispensing, and can prevent the label from auto application. In severe situations it may even cause the label to lift off the final product.

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