

How to Determine the Presence of a Primer

Polyethylene Terephthalate, or “polyester” film, is a chemically inert thermoplastic material, in large part due to the biaxial orientation process (stretched in the machine and transverse directions), during manufacture. This property, while a desired benefit for many high performance differentiated, specialty, and industrial applications, can make polyester film challenging to print.

DuPont Teijin Films™ adds chemical primers to Melinex® and Mylar® polyester film to enhance printability and improve ink adhesion. Printers are able to achieve success by using a primed polyester base film, in conjunction with formulated ink systems for a given set of printing and curing conditions.

One commonly asked question at Tekra related to secondary printing or processing of polyester film is, “How do I tell the presence of a primer?” Oftentimes, this question pertains to either a one-side primed, or non-primed polyester film. Knowing the presence of a primer is the first step to achieving a successful outcome.

Below are some general suggestions we offer our customers for determining the presence of a primer system:

1. For clear film, uncoated polyester is almost always tackier than a primer treated side. Fold film in half, so that you are rubbing the same side against itself between your fingers; you will notice it is much easier to move the primed film against itself than the non-primed film.

2. For clear films and low to mid haze films, swipe one side of film with MEK or acetone. If it is primer treated, you will see a coating layer removed with the solvent. You should notice a clear difference (i.e. hazy, white deposit resulting from the attack on the primer by the solvent). If you do not see a difference, it is most likely not primer treated.



3. Testing surface tension by various methods is reliable only when you have a reference with a target given primer on a target film type; surface energy of primed film is slightly more (2-3 dynes) than non-primed polyester.

4. The use of dyne pens is not reliable, due to relatively short shelf life of the pen.

The above suggestions are not all inclusive and can be subjective. In addition to these suggestions, we recommend you work with your ink/coating supplier to determine the suitability of the film for the intended process.