

FILMS & PRINTING

Polyester (Permanent Adhesive)

PROTAC polyester products are topcoated for offset printing using synthetic inks. **PROTAC** polyester films offer a two-year outdoor durability with excellent chemical resistance and a service temperature range of -65°F to +225°F. This family of products is an excellent choice for product identification, drum labels, gas pumps, appliance labels, nameplates and decorative trim. **PROTAC** polyester products are UL listed. Product is offered on a non-printable 90# polycoated liner for moisture resistance and excellent layflat characteristics. Available in 1-mil and 2-mil film thickness, product is coated with a solvent-based permanent acrylic adhesive system.

Polypropylene (Permanent Adhesive)

Available in either a 2-mil gloss clear or 2-mil gloss white face stock, polypropylene films are an economic alternative to polyester films for indoor applications only. Features a 90# polycoated liner for moisture resistance and excellent layflat characteristics. **PROTAC's** polypropylene products are topcoated for offset printing using synthetic inks.

3.5 Mil Semi-Rigid White Vinyl (Permanent Adhesive)

Premium product line is manufactured with a solvent-based adhesive system and Econo-Tac Plus™ brand of products are manufactured with an emulsion or water-based adhesive system. Face stock and liner are identical in both product lines. Unlike flexible vinyl, semi-rigid vinyl does not require topcoating for offset printing as there are limited plasticizers added to the base vinyl. They do however require synthetic inks for printing. Excellent choice for outdoor applications with

a one to two year outdoor durability such as; bumper stickers, drum labels, membership decals and point of purchase displays. Non-printable 90# polycoated liner for moisture resistance and excellent layflat characteristics.

3.5 Mil Semi-Rigid White Vinyl (Ultra-Repositionable Adhesive)

Econo-Tac Plus™, we offer the same high quality semi-rigid vinyl as in our Premium Line of semi-rigid vinyl's with a water based repositionable adhesive system. When your application calls for a temporary or removable decal, consider using **PROTAC's** (UR) - Repositionable Semi-Rigid Vinyl. **PROTAC** first developed this product for an economical alternative for printing static cling decals. Unlike static cling products, which adhere to windows and highly polished surfaces without the use of adhesive, UR products adhere to most surfaces without leaving adhesive residue. Great for temporary and promotional pieces. Semi-rigid vinyl has less shrinkage and stretch than flexible vinyl. Recommended for three-month outdoor use. Non-printable 90# polycoated liner for moisture resistance and excellent layflat characteristics.

4 Mil Topcoated Flexible Clear or White Vinyl

(Ultra-Repositionable Adhesive).

Premium – Water-based repositionable adhesive system. Great for window applications or other temporary or promotional applications where removability is required. Recommended for six-month outdoor use. Flexible vinyl is stronger than semi-rigid vinyl however a flexible vinyl has more shrinkage and stretch. Product is topcoated for excellent printability and laminated to a 90# non-printable polycoated liner for moisture resistance and excellent layflat characteristics.

Clear or White Static Cling Vinyl (No Adhesive)

8-mil vinyl topcoated for offset printing. The only truly removable product made. Adheres to glass or highly polished surfaces without the use of adhesive. High plasticizer content simulates static for adhesion. Used for window decals, seasonal window graphics and other temporary promotional applications. Extreme temperature changes can cause adhering problems. Requires synthetic inks for offset printing. Product is laminated to a 10pt. (100#) printable tag liner.

7 Mil Teslin™

A synthetic paper made up of approximately 60% air, which makes printing similar to offset paper. Often used for counter mats, menus or any application that requires a moisture resistant, limited-tear product. Teslin tends to yellow quickly in U.V. or artificial light. A press-applied varnish will help prevent this. Available with either permanent or ultra-repositionable adhesive on a non-printable 90# polycoated release liner for moisture resistance.

Offset Printing On Non-Absorbent Face Stocks

Offset printing on a non-absorbent face stock such as a semi-rigid vinyl, polyester film or synthetic product is no more difficult than printing on paper face stocks. Please note the following: 1) Films as well as most synthetics are non-absorbent materials thus they repel water and 2) Inks formulated for paper face stocks dry via polymerization while inks formulated for films and synthetics dry via oxidation.

PROTAC has consulted with leading ink manufacturers and they recommend the following techniques when printing non-absorbent face stocks:

- 1) Synthetic inks dry via contact with outside air (oxidation) thus the use of small lifts will reduce the potential of offsetting during the drying process. The use of a commercially available offset powder (approximately 50 micron) will increase the presence of air between the sheets enhancing drying time. Allow adequate time for the ink to dry before performing post press operations.

- 2.) Synthetic ink colors are long bodied and softer than standard offset inks and as a result, the amount of ink needed for effective coverage should be reduced to a minimum to insure smoothness. pH levels in the fountain solution(s) should be held between 3.8 to 4.2, as improper pH levels will inhibit (slow) the drying properties (oxidation) of the ink.
- 3.) The use of water during the printing process should be reduced to a minimum as synthetic and films are non-absorbent materials allowing any excess water to remain on the sheet. Scumming during startup is normal for synthetic inks and should disappear as the press comes up to speed. Minimum pressure setting will prevent excessive water from being forced into the ink itself.
- 4.) Small amounts of drier additives may be used in synthetic inks to reduce offsetting and to enhance drying time. However, too much drier will cause synthetic inks to become softer, which will cause slower drying.
- 5.) Synthetic sheet stocks are more susceptible to static buildup than are paper face stocks. Fanning lifts, the use of commercial static guard spray or ionizing jets will reduce static.

The tremendous versatility of synthetic and film products has made the use of such non-absorbent face stocks one of the fastest growing segments of offset lithography. Synthetics and films provide a clear advantage over paper face stocks for many end user applications and the correctly formulated inks will ensure a smooth job. *Always involve your favorite ink supplier*, as they will formulate the right ink for your application.

For samples or additional information on any PROTAC product, please call our sales service representatives at (800) 466-5247 or e-mail us at protacinc@protacinc.com.

PROTAC Appreciates The Opportunity To Be Of Service.