



# PRODUCT INFORMATION

## THERMLfilm SELECT® 20970, 21970 & 22970

### Product Description:

THERMLfilm SELECT 20970, 21970 and 22970 are UL-recognized, 2.0 mil gloss topcoated thermal transfer printable clear, white and silver matte polyesters, coated with an aggressive, high-performance permanent pressure-sensitive acrylic adhesive, and backed with a roll-form release liner that is Quilon\* coated to prevent label pickoff.

- PM 200 C & W, and MM 200 SM.....2.0 mil gloss clear, white, and metallized silver matte polyesters designed for engineering grade label applications.
- TC-390.....Topcoat resists smudging and abrasion when printed with resin and wax/resin thermal transfer ribbons. Topcoat offers static dissipating properties and facilitates fan-folding.
- L-606 (Hvy. Adh. 1.9-2.1).....Aggressive, high-performance permanent pressure-sensitive acrylic adhesive. Adhesive offers high initial tack and high ultimate bond.
- S50K/Q-8.....50 lb. semi-bleached kraft release liner. Liner is Quilon\* coated to prevent label pickoff.

### Product Variations: None

### Engineering Grade Applications:

- Automotive: Parts identification, authentication and tracking
- Industrial: Materials tracking, inventory control, product identification, asset tracking, agency recognition
- Utilities: Circuit breakers, power sources
- Communications: Cell phones, beepers

### Features & Benefits:

- Adhesive offers high initial tack and high ultimate bond to a wide variety of rough and textured surfaces and low surface energy plastics
- Static dissipating properties reduce print voids due to static generated at the print head
- Ideal for fan-foldable applications
- Compatible with color and black resin and wax/resin thermal transfer ribbons
- Printable with a wide range of conventional solvent and water-based inks
- Superior print quality to print-treated polyesters
- Liner is suitable for label sensing equipment with most thermal transfer printers
- UL-recognized as part of a thermal transfer printing system which includes a ribbon and THERMLfilm SELECT 20970, 21970, or 22970. FLEXcon's thermal transfer printable films are recognized with UL Laboratories under 969 standard for Marking and Labeling Systems, file number MH16635(N) and are listed in the recognized component directory under Section PGJ12, Component-Printing Materials. THERMLfilm SELECT 20970 and 22970 are also CUL-recognized
- THERMLfilm SELECT 21970, with specific thermal transfer ribbon(s) and printer(s), is a CSA-accepted Electronic Printing Technology, under CSA Standard C22.2 No. 0-15.95. See File No. 099214 L 000 (Class No. C7922 01)
- Available in Quick-Ship for fast delivery

\*Quilon is a registered trademark of E.I. Dupont

### Recommendations:

Evaluate the intended ribbon and ink system for compatibility with these products under application conditions.

# THERMLfilm SELECT® 20970, 21970 & 22970

Page 2

PRODUCT DATA	VALUE	TEST METHOD
<b>Physical Properties:</b>		
Thickness (Mils[microns])	Film: 2.0 (51) +/- 10% Adhesive: 1.9-2.1 (48-53) +/- 0.1 (3) Liner: 3.1 (79) +/- 10%	ASTM D 3652
Dimensional Stability (%)	No shrinkage observed	Applied Shrinkage: 24 hour dwell time on aluminum panel then 24 hours at 160°F (71°C)
Chemical Resistance (non printed stock)		
Household Cleaners:	No effect on topcoat or adhesive	ASTM D 896 (Modified for number of cycles and cycle time)
Mild Acid:	No effect on topcoat or adhesive	
Oil:	No effect on topcoat or adhesive	
Water:	No effect on topcoat or adhesive	
<b>Adhesion Properties:</b>		
Ultimate Peel from various surfaces	<u>Average</u> Oz/in (N/m)	ASTM D 903 (Modified for 72 hour dwell time)
Stainless Steel	102 (1122)	
Acrylic	116 (1276)	
Glass	101 (1111)	
Polypropylene	36 (396)	
Expected Shear (hours)	50	ASTM D 3654 Method A a. 1 hr. dwell b. 1 sq. in. surface c. 4 lb. load
Tack (gm)	990	ASTM D 2979
<b>Expected Exterior Life:</b>	Two years	
<b>Service Temperature Range:</b>	-40°F to 302°F (-40°C to 150°C)	
<b>Minimum Application Temperature:</b>	50°F (10°C)	
<b>Storage Stability:</b>	Two years when stored at 70°F (21°C) and 50% relative humidity	

## Product Performance and Suitability

All of the descriptive information, the typical performance data, and recommendations for the use of FLEXcon products shall be used only as a guide and do not reflect the specification or specification range for any particular property of the product. Furnishing such information is merely an attempt to assist you after you have indicated your contemplated use and shall in no event constitute a warranty of any kind by FLEXcon. All purchasers of FLEXcon products shall be responsible for independently determining the suitability of the material for the purpose for which it is purchased. No distributor, salesman, or representative of FLEXcon is authorized to give any warranty, guaranty, or make any representation in addition or contrary to the above.