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Technical Data Sheet

High Tack Thermal Transfer Printable Polyester Film

This specification is intended to outline the physical and chemical properties of *PANDUIT*'s pressure sensitive high tack thermal transfer printable polyester material and include the following printable material identifiers:

Printable Material Suffixes			
YPT	YQT-P	YUT-P	Y*1
YPT-P	YRT-P	YVT-P	AJC (Flag Label)
Y0T	YST-P	YWT-P	AJT (Flag Label)
Y0T-P	YTT-P	Y8T-P	AJM (Flag Label)
YPC	A*1	Y9T-P	

PRODUCT SPECIFICATIONS:

Description:	Material is RoHS compliant (European Union directive 2002/95/EC). Material is a top coated polyester film with a pressure sensitive adhesive.
Print Methods:	This material is recommended for thermal transfer printing.
Adhesive:	Rubber based, pressure sensitive high tack permanent adhesive
Standard Colors:	Various colors
Thickness:	3.9 +/- 0.3 mils (substrate and adhesive)
Service Temperature Range:	-40°F to 302°F (-40°C to 150°C)
Minimum Application Temperature:	50°F (10°C)
Storage Conditions:	Store at 70°F (21°C) and 50% Relative Humidity.

PROPERTIES:	PERFORMANCE:
Peel Adhesion to Stainless Steel:	100 oz/in width minimum (PSTC-101, 15 min. dwell)
Shear Adhesion:	24 hours minimum (PSTC-107, modified Procedure A)
Tensile Strength:	MD 36 +/- 3.6 lbs./inch width (PSTC-131) TD 41 +/- 4.1 lbs./inch width (PSTC-131)
Elongation:	MD 80% +/- 15% (PSTC-131) TD 75% +/- 15% (PSTC-131)
UV Resistance:	3000 hours no visual change observed for both white and colored labels (ASTM G154). 3000 hours equates to 5 years of assimilated outdoor UV exposure 5000 hours no visual change observed for white but significant fade observed for colored labels but print still legible (ASTM G154). 10,000 hours slight yellowing observed for white, complete fade for colored labels but print still legible (ASTM G154)
Elevated Temperature Exposure:	After 8 hours at 150°F (65.5°C) there was no deterioration of the substrate

PROPERTIES FOR SOLAR APPLICATION:	PERFORMANCE:
Short term low temperature exposure:	30 days at -51C, no visible change observed
Short term high temperature exposure:	30 days at 93C, no visible change observed
Relative Lightfastness and weatherability:	1000 hours, no change observed (ASTM D3424, Method 4)
Tensile Strength:	MD: 10114 PSI (ASTM D3759)
Elongation:	MD: 90% (ASTM D3759)
Tack:	12.6 N (ASTM D2979)
Flammability:	16 seconds (ASTM D1000)
Adhesion:	154.0 oz/in (ASTM D3330)

CHEMICAL/SOLVENT RESISTANCE:

The testing was conducted at room temperature. Samples were orange/red (flexo) preprinted and thermal transfer printed with Panduit RMR*BL/RMER*BL ribbon on the Panduit TDP43MY/TDP43ME printer. Separate sets were conditioned for 24 hours before being immersed in the following solvents for a period of 1 hour and 24 hours. After the samples were removed from the immersed solvents, they were rubbed 10 times with a lint free gauze. Visual observations were noted for any smear or loss of legibility.

1 Hour Immersion

Chemical/Solvent	Visual Observation	
	Ribbon only	Colored Flexo Ink
Isopropyl Alcohol 40%	No change	Orange ink removed
Jet Fuel	No change	No change
Gasoline	Loss in print density	No change
Methyl Ethyl Ketone	Loss in print density	Orange/red ink removed
Trichloroethylene	Loss in print legibility	Orange/red ink removed
409 Cleaner	No change	No change
Alpha Flux 200L	No change	No change

24 Hours Immersion

Chemical/Solvent	Visual Observation	
	Ribbon only	Colored Flexo Ink
Isopropyl Alcohol 40%	No change	Orange ink removed
Water 150°F	No change	No change
Salt Water	No change	No change
SAE 30 Motor Oil	No change	No change
Hydraulic Fluid	No change	No change
Skydrol	Loss in print legibility	Orange ink removed
Methanol/Water	No change	No change
Ethylene Glycol	No change	No change
ASTM #3 Oil	No change	No change

Reference
ASTM: American Society for Testing and Materials (U.S.A.)
PSTC: Pressure Sensitive Tape Council

Approvals for all part number suffixes except AJM. (AJM has no UL or CUL approvals)
UL Recognized: UL969 MH14979
CUL Recognized: C22.2 No 0.15-01 MH14979

PROPERTIES FOR HARSH WASHDOWN ENVIRONMENT (with overlaminate film)

Meets the requirements of Ingress protection rating standard DIN 40050-9, IP69K for labels used in harsh wash-down and high pressure spray applications, common to the food and beverage industries.

CHEMICAL RESISTANCE TEST all component labels except Flag Labels:

Samples were printed with RMER4BL ribbon on Panduit TDP43ME printer and overlaminated with a clear film (T225X000YK1 or T425X000YK1). These samples were adhered to stainless steel panels and immersed in the following solvents. Testing consisted of 10 cycles of 10 minutes immersion followed by a 20 minute recovery period. After final immersion, visual observations were noted for any smear or loss of legibility.

CHEMICAL/SOLVENT	TEMPERATURE	Print	Adhesive
Enforce LP	50^0C	No change	No change
HD PL-10 Plus	RT	No change	No change
Heavy Duty Acid LC-30	70^0C	No change	No change
Soil Off II	50^0C	No change	No change
Madisan 75	RT	No change	No change
Vortexx	50^0C	No change	No change
XY-12	RT	No change	No change