

Technical Data Sheet

Panduit Flame Retardant Halogen Free Polyurethane Tag

This specification is intended to outline the physical and chemical properties of *PANDUIT's* GMPU material and include the following printable material identifiers:

Printable Material Suffixes		
UPT		
UPT-B		

PRODUCT SPECIFICATIONS:

Description:	Material is RoHS compliant (European Union directive 2002/95/EC). GMPU is a flame retardant halogen free polyurethane film.
Print Methods:	This material is recommended for thermal transfer printing.
Standard Colors:	White
Thickness:	24.0 +/- 1.9 mils
Storage Conditions:	Store at 70°F (21°C) and 50% Relative Humidity.

PROPERTIES:

PERFORMANCE:

Tensile Strength:	MD: 5000 PSI +2200 PSI /- 1000 PSI (Range: 4000 PSI to 7200 PSI) (ASTMD-882)
Elongation:	MD: 450% minimum (ASTMD-882)
High Service Temperature:	30 days at 90 ⁰ C(193 ⁰ F), no visible change observed
Low Service Temperature:	30 days at -40 ⁰ C(-40 ⁰ F), no visible change observed
Flammability:	Meets UL94 V-2 flammability rating.
Humidity Resistance:	30 days at 100 ⁰ F(37 ⁰ C) and 95% RH, no visible change observed
UV Resistance:	*3000 hours, discoloration of the material but print still legible *3000 hours equates to 5 years of assimilated outdoor UV exposure.
Slot Tear Resistance:	MD: 14.0 +/- 1.4 lb/inch width
Tear-Propagation Resistance:	MD: 2800gms (ASTM D1938)

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Abrasion Resistance: CS-10 wheels/500 gm wt/75 cycles, no visible change observed.

CHEMICAL/SOLVENT RESISTANCE:

The testing was conducted at room temperature. Samples were thermal transfer printed with RMR*BL/RMER*bl black resin ribbon on the Panduit TDP43MY/TDP43ME printer. Separate sets were conditioned for 24 hours before being immersed in the following solvents. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by a 30 minute recovery period. After final immersion, samples were rubbed 10 times with a cotton swab saturated with the test fluid. Visual observations were noted for any smear or loss of legibility.

Chemical/Solvent	Visual Observation of Print without rub	Visual Observation of print with rub
Isopropyl Alcohol	No change	Loss of print density
Methyl Ethyl Ketone	No change	Loss of print legibility
Jet Fuel	No change	Loss of print density
Diesel	No change	Loss of print density
Gasoline	No change	Loss of print legibility
ASTM #3 Oil	No change	No change
Mil 5606 Oil	No change	Loss of print density
Deionized water	No change	No change
SAE 30 Oil	No change	No change
Skydrol	No change	Loss of print legibility
10% Sulfuric Acid	No change	No change
10% NaCl salt solution	No change	No change
Alcohol Mix*	No change	Loss of print legibility

*Alcohol mix is 50% ethanol, 30% methanol, and 20% distilled water by volume.

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