Product Information

DuPont Teijin Films™

Melinex®

polyester film

Melinex® ST506™

Product Description

Melinex® ST506™ film is an optically clear, heat stabilised film, pre-treated on both surfaces to give enhanced adhesion to inks and lacquers, making it particularly suitable for graphics and circuitry layers of membrane touch switches. Melinex® ST506™ film is an knurled film which is available in thicknesses of 125, 175 and 250 microns.

Our process of continual improvement in quality and specification now enable us to provide the following properties and benefits:

* Heat stabilised to give excellent dimensional stability at temperatures up to 150°C.
* Excellent adhesion to a wide range of solvent based inks, graphics inks and varnishes, silver conductive inks and dielectrics.
* Excellent durability and toughness giving long lasting switches, particularly when compared with polycarbonate.
* Greatly superior solvent resistance to that of polycarbonate, making Melinex® ST506™ film particularly suitable for use in many industrial applications.

Food Contact Advice

Melinex® ST506™ has not been assessed against Food Contact Legislation.

Disposal

Disposal of Mylar®/Melinex® does not present special disposal problems. Where waste occurs in a clean, uncontaminated form it can be recycled. In most circumstances, once Mylar®/Melinex® has been laminated, coated, printed or metallised, incineration with Energy Recovery is the most environmentally efficient recovery route. Mylar®/Melinex® can also be burned in an incinerator with normal refuse or can be buried as a relatively inert material in a landfill. The disposal method should comply with appropriate local and country regulations.

TYPICAL VALUES OF PROPERTIES

Property	Test Method	Unit	Value		
Thermal			**All Thicknesses (µm)**		
Melting point	BS2782	ºC	255		
Coefficient of thermal expansion (between 20 and 50ºC)		cm/cm deg C	19 x 10^{-6} (MD)		
Residual Shrinkage (after 30mins at 150ºC)		%	MD* 0.10 TD** 0.03		
Optical			**125µm**	**175µm**	**250µm**
Haze	ASTM D 1003-78 (measured on Gardner Hazemeter)	%	1.0	1.5	1.7
Total Light Transmission	ASTM D1003	%	89	89	89
Gloss 60º	ASTM D523		150	150	150
Electrical			**125µm**	**175µm**	**250µm**
Dielectric strength	ASTM D149	Kv/mm	125		105
Dielectric Constant 50c/sec	ASTM D150		2.9		
Surface Resistivity	ASTM D257-83	ohm/□	10^{15}		
Volume resistivity	ASTM D257	ohm m	10^{15}		
General & Mechanical			**125µm**	**175µm**	**250µm**
Area yield		m²/kg	5.7	4.0	2.9
Relative Density (at 23ºC)	ASTM D 1505-79 (modified to Melinex test method)	kgf/mm²	1.39		
Tensile strength at break	ASTM D 882	per 1% RH	>17.7	>14.1	
			125µm	**175µm**	**250µm**
Flexural strength (MIT fold)	ASTM D2176	Cycles	<20,00 0	>15,000	>10,000
Coefficient of friction (static)	ASTM D1894	--	<0.7		
Water vapour permeability 38ºC/90% rh			4.0	2.9	0.86
Coefficient of hygroscopic expansion			8x10^{-6}		
			125µm		**250µm**
Elongation at break	ASTM D 882-83	%	MD 96		107
			TD 126		125
F5 (force to elongate 5% of gauge length)	ASTM D 882 (50% strain rate)	kgf/mm²	10 10.2		9.9 10.2

1 micron = 0.001 mm approx. 4 gauge, *MD = Machine Direction, **TD = Transverse Direction

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