



Melinex®

polyester film

Melinex® 226/227

Melinex® 226 is a white film both surfaces of which are semi-matt. It has been specially developed for use as an electrical insulation material in rotating electrical machines. It is available in a range of thicknesses between 125 to 350 microns.

A low extractables grade (Melinex® 238) is also available for hermetic motor applications where oligomer extraction needs to be limited.

Melinex® product code 227 identifies film which is supplied as spooled directly from the production line.

TYPICAL VALUES OF PROPERTIES

Property	Test Method	Unit	Value			
General						
Thickness	---	micron	125	190	250	350
Area Yield	---	m ² /kg	5.7	3.8	2.9	2
Relative Density (at 23°C)	ASTM D 1505-79 (Modified to Melinex test method)	--	1.4			
Water absorption	ASTM D 570-81(1 week at 23°C)	%	0.55			
Oligomer extraction	24 hours boiling xylene (soxhlet)	%	1.5			
Thermal						
Shrinkage	190°C for 5 minutes	%	MD	TD		
Coefficient of thermal expansion (between 20°C and 50°C)		1/K (cm/cm deg C)	2	2		
Specific Heat (at 25°C)			36x10 ⁻⁶	23x10 ⁻⁶		
		kJ/kg deg K	1.3			
		cal/g dec C	0.32			
Mechanical						
Tensile strength at break	ASTM D 882-83 (23°C at 50% rh Strain rate 50%/min)	kgf/mm ²	MD	TD		
Elongation at break	as above	%	18	20		
Slip (coefficient of static friction)	ASTM D 1894-78 (Modified to Melinex test method)	--	150	130		
			0.3			

Electrical					
Breakdown Voltage	IEC 243 (50 Hz continuously increasing at 500 V/sec 6.3mm electrodes)	micron kV	125 16	190 19	210 20
Surface resistivity	IEC 93 (500 V dc at 20°C and 54% RH)	ohm/	>10 ¹³		
Volume resistivity	IEC 93 (100 V dc at 25°C and 1000s)	ohm m	10 ¹⁵		
Permittivity	IEC 250				
23°C, 50Hz		--	3.26		
23°C, 1kHz		--	3.24		
23°C, 10kHz		--	3.21		
0°C, 50Hz		--	3.26		
50°C, 50Hz		--	3.27		
100°C, 50Hz		--	3.35		
150°C, 50Hz		--	3.65		
Dissipation Factor	IEC 250				
23°C, 50Hz		--	0.002		
23°C, 1kHz		--	0.0055		
23°C, 10kHz		--	0.011		
0°C, 50Hz		--	0.004		
50°C, 50Hz		--	0.0015		
100°C, 50Hz		--	0.007		
150°C, 50Hz		--	0.006		
Chemical Resistance					
Dilute acids and alkalis		Good			
Concentrated alkalis		Poor			
Concentrated hydrochloric acid		Fair			
Concentrated sulphuric acid		Poor			
Greases, oils and fats		Good			
Organic solvents, alcohols and hydrocarbons		Good			
Ketones, esters and chlorinated compounds		Fairly good			
Phenols, cresols and chlorinated phenols		Poor			

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

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Caution: Do not use in medical applications involving permanent implantation in the human body. For

other medical applications, see "DuPont Teijin Films Medical Caution Statement", H-50102-DTF.

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