



# Melinex®

polyester film

## Melinex® 516

Melinex® 516 is a sparkling, optically clear knurled film with excellent handling properties. The film is specially treated on both sides to give a slippery surface and is suitable for applications where very high transparency is important. It is available in thicknesses of 175 and 250 microns.

### TYPICAL VALUES OF PROPERTIES

Property	Test Method	Unit	Value	
<b>General</b>			<b>175mic</b>	<b>250mic</b>
Area Yield		m <sup>2</sup> /kg	4	2.9
Relative Density (at 23°C)	ASTM D 1505-79 (modified to Melinex test method)		1.4	
<b>Thermal</b>				
Upper melt temperature	ASTM E794-85	°C	255 - 260	
Coefficient of thermal expansion (between 20 and 50°C)		cm/cm deg C	19 x 10 <sup>-6</sup> (MD)	
Shrinkage (after 5mins at 190°C)		cm/cm deg C	16 x 10 <sup>-6</sup> (TD)	
		%	3 (MD & TD)	
<b>Mechanical</b>				
Tensile strength at break	ASTM D 882-83 (50µm film 23°C at 50% rh strain rate 50%/min)	kgf/mm <sup>2</sup>	MD* >17.5	No data avail yet
			TD** >17.5	No data avail yet
Elongation at break	As above	%	125	80
Slip (coefficient of static friction)	ASTM D 1894-78 (modified to Melinex test method)	treated to untreated untreated to untreated	0.47	>1.0
<b>Optical</b>			<b>175mic</b>	<b>250mic</b>
Haze	ASTM D 1003-78 (measured on Gardner Hazemeter)		0.9	1.4
Total Luminous Transmissions (TLT)	ASTM D 1003-77 (measured on Gardner Hazemeter)	%	89	89

<b>Electrical</b>			
Dielectric strength	IEC 243 (0.25 inch electrodes in dry air at 25°C)	Kv/mm	105 No data avail yet
Surface resistivity	IEC 93 (500V dc at 20°C an 54% rh)	ohm/	>10 <sup>13</sup>
Volume resistivity	IEC 93	ohm m	10 <sup>15</sup>
<b>Permittivity</b>			
23°C, 50Hz	ASTM D 150-81	--	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
<b>Power factor</b>			
23°C, 50Hz	ASTM D 150-81	--	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		--	0.01
150°C, 50Hz		--	0.006
<b>Chemical resistance</b>			
Dilute acids and alkalis		Good	
Concentrated alkalis		Poor	
Conc. Hydrochloric acid		Fair	
Conc. 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	

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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