

Physical Properties

The following table displays physical properties of 3mm (0.12 inch) PALSUN sheets.

Property	Method**	Conditions (U.S. Customary)*	Units - SI (U.S. Customary)*	Value (U.S. Customary)*
Physical				
Density	D-792		g/cm ³ (lb/ft ³)	1.2 (75)
Water Absorption	D-570	24 hr. @ 23°C	%	0.15
Mechanical				
Tensile strength at yield	D-638	10 mm/min (0.4 in./min)	MPa (psi)	62.5 (9,100)
Tensile strength at break	D-638	10 mm/min (0.4 in./min)	MPa (psi)	65 (9,500)
Elongation at yield	D-638	10 mm/min (0.4 in./min)	%	6
Elongation at break	D-638	10 mm/min (0.4 in./min)	%	>80
Tensile Modulus of Elasticity	D-638	1 mm/min (0.4 in./min)	MPa (psi)	2,300 (290,000)
Flexural Modulus	D-790	1.3 mm/min (0.052 in./min)	MPa (psi)	2,350 (343,000)
Flexural Strength at Yield	D-790	1.3 mm/min (0.052 in./min)	MPa (psi)	93 (13,600)
Notched Impact Strength Izod	D-256	23°C (73°F)	J/m (ft-lbf/in.)	800 (15)
Notched Impact Strength Charpy	D-256	23°C (73°F)	J/m (ft-lbf/in.)	800 (15)
Impact Falling Weight	ISO-6603/1b		J (ft-lbf)	158 (117)
Rockwell Hardness	D-785		R scale / M scale	125 / 75
Thermal				
Long Term Service Temperature			°C (°F)	-50 to +100 (-175 to +212)
Short Term Service Temperature			°C (°F)	-50 to +120 (-175 to +250)
Heat Deflection Temperature	D-648	Load: 1.82 MPa (264 psi)	°C (°F)	135 (275)
Vicat Softening Temperature	D-1525	Load: 1 kg (2.2 lb)	°C (°F)	150 (300)
Coefficient of Linear Thermal Expansion	D-696		mm/m °C (Mil/in. °F)	0.065 (0.036)
Thermal Conductivity	C-177		W/m K (Btu-in/hr-ft ² -°F)	0.21 (1.46)
Specific Heat Capacity	C-351		kJ/kg-°K (Btu/lb-°F)	1.26 (0.31)
Optical				
Haze	D-1003	Clear Sheet	%	<0.5
Light Transmission	D-1003	Clear Sheet	%	89
Refractive Index	D-542	Clear Sheet		1.586
Yellowness Index	D-1925	Clear Sheet		<1
Electrical				
Dielectric Constant	D-150	50 Hz		3.0
	D-150	1 MHz		2.9
Dissipation Factor	D-150	1 KHz		0.001
	D-150	1 MHz		0.01
Dielectric Strength Short Time	D-149	500 V/s	kV/mm (V/mil)	>30 (>770)
Surface Resistivity	D-257	Keithley	Ohm	10 ¹⁶
Volume Resistance	D-257	Keithley	Ohm-cm	10 ¹⁷

* Conditions, units and values in U.S. Customary units are presented in the table within parentheses.

** ASTM except where noted otherwise.