



## Optically Clear PVC Sheet - Material Properties

Property	Method*	Conditions**	Units - Metric (US)**	Value - Metric (US)**
<b>Physical</b>				
Density	D-1505		g/cm <sup>3</sup> (lb/ft <sup>3</sup> )	1.4 (87)
Water absorption	D-570	24 hr. @ 23°C (73°F)	%	0.03
<b>Mechanical</b>				
Tensile strength at yield	D-638	10 mm/min. (0.4 in./min.)	MPa (psi)	71 (10,300)
Tensile strength at break	D-638	10 mm/min. (0.4 in./min.)	MPa (psi)	39 (5,650)
Elongation at yield	D-638	10 mm/min. (0.4 in./min.)	%	3
Elongation at break	D-638	10 mm/min. (0.4 in./min.)	%	95
Tensile modulus of elasticity	D-638	1 mm/min. (0.052 in./min.)	MPa (psi)	3,100 (450,000)
Flexural modulus	D-790	1 mm/min. (0.052 in./min.)	MPa (psi)	3,200 (464,000)
Flexural strength at yield	D-790	1 mm/min. (0.052 in./min.)	MPa (psi)	103 (14,900)
Izod impact strength (notched)	D-256	23°C (73°F)	J (ft-lbf)	35 (0.65)
Impact strength charpy (notched)	D-256	23°C (73°F)	J/m (ft-lbf/in.)	25 (0.48)
Impact falling weight	ISO-6603/1d	3mm (0.118 in.) sheet	J (ft-lbf)	95 (70)
Hardness	D-785		Rockwell R Scale Shore	115
	Shore D		D Scale	80
<b>Thermal</b>				
Service temperature range				-10 to 50 (14 to 122)
Heat deflection temperature	D-648	Load: 1.82 MPa (264 psi)	°C (°F)	62 to 65 (144 to 150)
Vicat softening temperature	D-1525	Load: 1 kg (2.2 lb)	°C (°F)	86 (185)
Coefficient of linear thermal expansion	D-696		°C (°F)	6.7x10 <sup>-5</sup> (3.7x10 <sup>-5</sup> )
Thermal conductivity	C-177		W/m <sup>2</sup> K	0.15 (1.05)
<b>Optical</b>				
Light transmission	D-1003	3mm (0.118 in.) Water-Clear sheet	%	87
Yellowness index	D-1925	3mm (0.118 in.) Water-Clear sheet		<4
<b>Electrical</b>				
Dielectric constant	D-150	50 Hz		4
Dielectric constant	D-150	1 MHz		3
Dielectric strength	D-149	500 V/s	kV/mm (V/mil)	>50 (1270)
Surface resistance	D-257	Keithley	Ohm	3.7x10 <sup>14</sup>
Volume resistance	D-257	Keithley	Ohm-cm (Ohm-in)	1.2x10 <sup>15</sup>

\* ASTM except where noted otherwise.

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

Notes:

1. PALCLEAR® with bluish tint differs only in its optical properties.

2. PALCLEAR® High Impact differs only slightly in all properties with the exception of impact resistance and light transmission. Values for impact resistance are: Izod Impact Strength Notched - 80 J (1.5 ft-lb); Impact Strength Charpy Notch - 60 J/m (1.1 ft-lb/in.); Impact Falling Weight ISO 6603/1 - 130 J (95 ft-lb). The light transmission value is 80%.

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