Product Data - Trupoly UV Polycarbonate

Typical Properties

Property	Conditions (U.S. Customary)	Test Method	Units	Values
PHYSICAL				
Density		ASTM D 1505	g/c m³	1.2
Water absorption	24 hr. @ 23°C	ASTM D 570	%	0.15
MECHANICAL				
Tensile strength at yield	10 mm/min (0.4 in./min)	ASTM D 638	MPa	62
Tensile strength at break	10 mm/min (0.4 in./min)	ASTM D 638	MPA	65
Elongation at yield	10 mm/min (0.4 in./min)	ASTM D 638	%	6
Elongation at break	10 mm/min (0.4 in./min)	ASTM D 638	%	110
Tensile modulus of elasticity	10 mm/min (0.4 in. /min)	ASTM D 638	MPa	2,378
Flexural modulus	1.3 mm/min (0.05 in./min)	ASTM D 790	MPa	2,378
Flexural strength at yield	1.3 mm/min (0.05 in./min)	ASTM D 790	MPa	93
Notched Izod impact strength	23°C (73°F)	ASTM D 256	J/m (ft·lbf/in)	800 (15)
Notched Charpy impact strength	23°C (73°F)	ASTM D 256	J/m (ft·lbf/in)	800 (15)
Impact falling weight	3 mm (0.12 in.) Sheet	ISO 6603/1b	J (ft·lbf)	158 (117)
Rockwell hardness		ASTM D 785	R scale / M scale	125/70
Compressive strength	1.3 mm/min (.05 in./min)	ASTM D 695	MPa	86
Compressive modulus	1.3 mm/min (.05 in./min)	ASTM D 695	MPa	2378
Shear strength at yield	1.3 mm/min (.05 in./min)	ASTM D 732	MPa	41
Shear strength at break	1.3 mm/min (.05 in./min)	ASTM D 732	MPa	68
Shear modulus	1.3 mm/min (.05 in./min)	ASTM D 732	MPa	786
THERMAL				
Long term service temp			°C(°F)	-75 to +100(-175 to +212)
Short term service temp			°C(°F)	-75 to +120(-175 to +250)
Heat deflection temp	Load: 1.82 Mpa (264 psi)	ASTM D 648	°C(°F)	132(270)
Vicat softening temperature	Load: 1 kg (2.2 lb)	ASTM D 1525	°C(°F)	150(300)
Coefficient of linear thermal expansion		ASTM D 696	10-5/°C (10-5/°F)	6.5(3.6)
Thermal conductivity		ASTM C 177	W/m°K (Btu-in./hr-ft2-°F)	0.21(1.46)
Specific heat capacity		ASTM C 351	kJ/kg°K (Btu/lb°F)	1.26(0.31)
OPTICAL				
Haze	3 mm (0.12 in.) Clear Sheet	ASTM D 1003	%	<0.5
Light transmission	3 mm (0.12 in.) Clear Sheet	ASTM D 1003	%	89
Refractive index	Clear Sheet	ASTM D 542		1.59
Yellowness index	3 mm (0.12 in.) Clear Sheet	ASTM D 1925		<1

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ELECTRICAL				
Dielectric constant	50 Hz	ASTM D 150		3
	1 MHz	ASTM D 150		2.9
Dissipation factor	50 Hz	ASTM D 150		0.9
	1 MHz	ASTM D 150		11
Dielectric strength short time	500 V/s	ASTM D 149	kV/mm(V/mil)	>30 (>770)
Surface resistance	Ketley	ASTM D 257	Ohm	5.1x1015
Volume resistance	Ketley	ASTM D 257	Ohm-cm	1.3x1017

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.