

Polycarbonate GP Sheet

General Purpose Transparent Polycarbonate

Product Description

Polycarbonate GP sheet is a polished surface, uv-stabilized, transparent polycarbonate product. It features outstanding impact strength, superior dimensional stability, high temperature resistance, and high clarity. This lightweight thermoformable sheet is also easy to fabricate and decorate. Polycarbonate GP sheet can be utilized for primary glazing, or on either side of existing glazing for economical protection against breakage or intrusion. A better insulator than glass, Polycarbonate GP sheet contributes to lower energy costs. Polycarbonate GP sheet is offered with a five (5) year Limited Product Warranty against breakage.

Characteristics

- Excellent impact resistance
- Excellent dimensional stability
- Excellent optical clarity
- Good electrical properties
- Good heat resistance

Applications

- Windows
- Site glasses
- Machine guards
- Manifolds
- Instrument components
- Control panels



General

Extruded Sheet: .030 through .787 thick

Sheet sizes: 48x96 • 48x120 • 60x96 • 72x96 • 80x120

General Purpose Clear re-cling film masked 2-sides

Agency ratings: ASTM D3935 PC0136 ASTM D • UL746C f1 Recognized • CID A-A-59502 type I, class 1

Standard colors: Clear 112 • Gray 7130 • Bronze 5109

Physical	Nominal Value Unit	Nominal Value Unit	Test Method
Density / Specific Gravity	0.043 lb/in ³	1.200 g/cm ³	ASTM D1505
Water Absorption			ASTM D570
24 hr, 73°F	0.15 %	0.12 %	
Saturation, 73°F	0.35 %		
Equilibrium, 212°F	0.58 %		
Optical	Nominal Value Unit	Nominal Value Unit	Test Method
Refractive Index	1.586	1.586	ASTM D542
Light Transmittance (100.0 mil)	88 %	88 %	ASTM D1003
Haze (100.0 mil)	1 %	1 %	ASTM D1003
Mechanical	Nominal Value Unit	Nominal Value Unit	Test Method
Tensile Strength (Yield)	8990 psi	62 Mpa	ASTM D638
Tensile Strength (Break)	9430 psi	65 Mpa	ASTM D638
Tensile Elongation (Yield)	7.00 %	7.00 %	ASTM D638
Tensile Elongation (Break)	110 %	110.00 %	ASTM D638
Flexural Modulus ⁴ (1.97 in Span)	339000 psi	2339 Mpa	ASTM D790
Flexural Strength ⁴ (Yield, 1.97 in Span)	13500 psi	93 Mpa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g,	10 mg		ASTM D1044

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Impact	Nominal Value Unit	Nominal Value Unit	Test Method
Notched Izod Impact (73°F)	17 ft-lb/in	908 J/m	ASTM D256
Unnotched Izod Impact (73°F)	60 ft-lb/in	3204 J/m	ASTM D4812
Gardner Impact (73°F)	1500 in-lb	169 J	ASTM D3029
Tensile Impact Strength ⁵	260 ft-lb/in ²	564 kJ/m ²	ASTM D1822
Hardness	Nominal Value Unit	Nominal Value Unit	Test Method
Rockwell Hardness	118 R scale	118 R scale	ASTM D785
	70 M scale	70 M scale	ASTM D785
Thermal	Nominal Value Unit	Nominal Value Unit	Test Method
Deflection Temperature 66 psi	279 °F	137 °C	ASTM D648
Deflection Temperature 264 psi	270 °F	132 °C	ASTM D648
CLTE - Flow (-40 to 203°F)	3.80E-05 in/in/°F	6.8E-5 cm/cm/°C	ASTM E831
Thermal Conductivity	1.3 Btu•in/(h•ft ² •°F)	0.19 W/m/K	ASTM C177
RTI Elec	266 °F		(UL746B)
RTI Imp	266 °F	125 °C	
RTI Str	266 °F	115 °C	
Specific Heat	0.299 Btu/lb/°F	1250.00 J/kg/°C	ASTM C351
Electrical	Nominal Value Unit	Nominal Value Unit	Test Method
Volume Resistivity	> 1.0E+17 ohms-cm		ASTM D257
Dielectric Strength (0.126 in, in Air)	380 V/mil		ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.17		
50 kHz	3.17		
1 MHz	2.96		
Dissipation Factor			ASTM D150
50 Hz	9.00E-04		
60 Hz	9.00E-04		
1 MHz	0.01		
Comparative Tracking Index (CTI)	PLC 2		UL 746A
High Amp Arc Ignition (HAI) ⁷	PLC 1		UL 746A
High Voltage Arc Resistance to Ignition (HVAR)	PLC 2		UL 746A
Hot-wire Ignition (HWI)	PLC 4		UL 746A
Flammability	Nominal Value Unit	Nominal Value Unit	Test Method
Flame Rating (0.029 in)	HB		UL94
Flash Ignition Temperature	896 °F	480.38 °C	ASTM D1929

Chemical Resistance

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Acetone	Not resistant	Hydrochloric acid, aqueous solution 36'	Limited Resistance
Ammonia solution 10%	Not resistant	Hydrofluoric acid, 10%	Resistant
Benzene	Not resistant	Isopropanol	Resistant
Boric acid, aqueous solution 10%	Resistant	Methanol	Not resistant
Diesel oil	Resistant	Nitric acid, aqueous solution 10%	Resistant
Ethanol, 96%	Limited Resistance	Silicone Oil	Resistant
Ethylene chloride	Not resistant	Sulphuric acid, aqueous solution 2%	Resistant
Formaldehyde, aqueous solution 30%	Resistant	Sulphuric acid, concentrated 98%	Not resistant
Glycerin	Resistant	Triethanolomine	Not resistant
Glycol	Resistant	Trichloroethylene	Not resistant

* This information is based on average resin value specifications and is only to assist and advise you on the current technical knowledge, it is given without obligations or liability.

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Standard sizes and approximate weight (lbs) per sheet

Thickness		Lbs / Sq Ft	48 x 96	60 x 96	72 x 96	48 x 120	80 x 120	Thickness Tolerance
inches	mm							
0.030	0.76	0.19	5.99	7.49	8.99	7.49	12.48	+/- 10%
0.040	1.0	0.25	7.99	9.98	11.98	9.98	16.64	+/- 10%
0.060	1.5	0.37	11.98	14.98	17.97	14.98	24.96	+/- 7%
0.080	2.0	0.50	15.97	19.97	23.96	19.97	33.28	+/- 7%
0.090	2.3	0.56	17.97	22.46	26.96	22.46	37.44	+/- 7%
0.118	3.0	0.74	23.56	29.45	35.34	29.45	49.08	+/- 5%
0.177	4.5	1.10	35.34	44.18	53.02	44.18	73.62	+/- 5%
0.220	5.6	1.37	43.93	54.91	65.89	54.91	91.51	+/- 5%
0.236	6.0	1.47	47.12	58.91	70.69	58.91	98.17	+/- 5%
0.276	7.0	1.72	55.11	68.89	82.67	68.89	114.80	+/- 5%
0.315	8.0	1.97	62.90	78.62	94.35	78.62	131.03	+/- 5%
0.354	9.0	2.21	70.69	88.36	106.03	88.36	147.25	+/- 5%
0.375	9.5	2.34	74.88	93.60	112.32	93.60	155.98	+/- 5%
0.472	12.0	2.95	94.25	117.81	141.37	117.81	196.33	+/- 5%
0.500	12.7	3.12	99.84	124.80	149.76	124.80	207.98	+/- 5%
0.787	20	4.91	157.15	196.44	235.72	196.44	327.36	+/- 5%

