Updated 02/08/2025

Product Description- 20 mil

PC1 Polycarbonate Film is extruded from the finest quality resin and to the highest quality for graphic arts grade films. Key performance properties include superior optical, thermal, mechanical, and electrical characteristics. Polycarbonate (PC) film is an amorphous thermoplastic material that is known to be **tough, impact-resistant, and virtually unbreakable** for numerous applications. The film delivers the clarity, dimensional stability, and impact resistance properties you demand.

Typical Bulk Properties for clear unless otherwise noted

Property	Test Method	Units	Value
Physical			
Specific Gravity	ASTM D-792	---	1.20
Area Factor	ASTM D-590	Ft ² / lb. / mil	160
Water Absorption at equilibrium	ASTM D-570	%	0.32
Rockwell Hardness	ASTM D-785	R Scale	118
Pencil Hardness	ASTM D-3363	Scratch Hardness	B
Optical			
Refractive Index @ 77°F (25°C)	ASTM D-542	N_D	1.586
Light Transmission	ASTM D-1003	%	89
Haze[4]	ASTM D-1003	%	0.5
Yellowness Index	ASTM D-1925	---	< 1.0
Mechanical			
Tensile Strength, Break	ASTM D-638	psi	10,500
Tensile Strength, Yield	ASTM D-638	psi	8,700
Tensile Elongation, Break	ASTM D-638	%	150
Tensile Modulus of Elasticity	ASTM D-638	psi	350,000
Tear Strength, Initial	ASTM D-1004	lb. / mil	1.4 – 1.8
Tear Strength, Propagation	ASTM D-1922	g / mil	30 – 55
Burst Strength[1]	ASTM D-774	Mullen, psi	40 – 45
Fold Endurance[2]	M.I.T.	Double Folds	200
Impact Strength, Gardner[3]	ASTM D-5420	in lbs	120
Thermal			
Deflection Temperature under Flexural Load @ 264 psi	ASTM D-648	°F	288
Tensile Heat Distortion @ 50 psi	ASTM D-1637	°F	302
Specific Heat Capacity @ 77°F	ASTM C-351	BTU / (lb. °F)	0.30
Thermal Conductivity	ASTM C-177	BTU / (hr)(ft²)(°F/in)	1.35
Coefficient of Thermal Expansion	ASTM D-696	in / in / °F	38 x 10^{-6}
Strain Relief @ 275°F	ASTM D-1204	%	< 0.2
Brittleness Temperature	ASTM D-746	°F	-211
Vicat Softening Temperature	ASTM D-1525	°F	305
Electrical			
Dielectric Strength @ 72°F in oil, short time[2]	ASTM D-149	V/mil	1,700
Dielectric Constant 60 Hz /1 MHz	ASTM D-150	---	3.00 / 3.00
Dissipation Factor 60 Hz / 1 MHz	ASTM D-150	---	0.002 / 0.002
Volume Resistivity	ASTM D-257	Ω-cm	10^{17}
Surface Resistivity	ASTM D-257	Ω-cm²	10^{15}

Footnotes:
(1)Value for 0.001" film
(2)Value for 0.010" film
(3)Value for 0.030" film
(4)Value measured for Gloss / Gloss film

PLEASE NOTE: Properties reported here are typical of average lots. The material in any particular shipment may not conform exactly to the value given herein. The user of the material should perform their own testing to determine the suitability of the material for the intended use. Applications depicted herein are not specifications. They are provided as information only.