



# THE GUND COMPANY

Manufacturers & fabricators of engineered material solutions

Item:	Polycarbonate
Description:	Polycarbonate is a thermoplastic known by such trade names as Palsun®, Lexan®, Spartech®, Tuffak®, Merlin®, Makrolon®, and Hyzod®. It is utilized for its strong mechanical properties and good electrical insulation characteristics. It is available as transparent or in a variety of colors.
Application:	Polycarbonate materials are commonly used as sight windows or finger guards in metal enclosed switchgear. Specific grades of material are available that carry a UL 94 V-0 flame class rating which can be utilized as electrical insulators. Polycarbonate can be easily machined and formed into a variety of three dimensional shapes. Polycarbonate is also commonly used for glazing and machine guards where the need for high impact resistance is required.
Availability:	The Gund Company custom fabricates insulation materials to the exact specifications and drawings of our customers.

Key Characteristics		Test Method	Units	Typical Values
Density		ASTM D-792	g/cm <sup>3</sup>	1.2
Heat Deflection Temperature		ASTM D-648	°C	130
Service Temperature	Short Term	--	°C	-50 to 120
	Long Term			-50 to 100
Coefficient of Linear Thermal Expansion		ASTM D-696	cm/cm °C	6.5 x 10 <sup>-5</sup>
Thermal Conductivity		ASTM C-177	W/mK	0.21
Tensile Strength at Yield		ASTM D-638	MPa	60
Tensile Strength at Break		ASTM D-638	MPa	65
Elongation at Yield		ASTM D-638	%	6
Elongation at Break		ASTM D-638	%	> 90
Tensile Modulus of Elasticity		ASTM D-638	MPa	2,000
Flexural Strength		ASTM D-790	MPa	100
Flexural Modulus		ASTM D-790	MPa	2,600
Impact Falling Weight		ISO 6603/1	J	158
Rockwell Hardness		ASTM D-785	R Scale	125
Light Transmission		ASTM D-1003	%	89
Haze		ASTM D-1003	%	< 0.5
Yellowness Index		ASTM D-1925	--	< 1
Dielectric Strength		ASTM D-149	V/mil	> 700
Dielectric Constant		ASTM D-150	--	3