



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. Polycarbonate is available in different flammability grades; UL 94 HB through UL 94-VA and is selected by the customer to meet the needs of their electrical insulation needs. 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 clients' specifications and drawings.

Key Characteristics	Test Method	Units	Typical Values	
Density	ASTM D-792	g/cm ³	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 ⁻⁵	
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	