



**MULFORD**  
PLASTICS  
*delivering solutions*

## POLYCARBONATE GP

### Polycarbonates GP

#### Zenolex® GP

**Zenolex®** Polycarbonate is the ultimate high strength glazing and industrial material. **Zenolex®** sheet is recognised not only for its clarity, safety, security and energy savings, but also for the design freedom it provides architects. **Zenolex®** has preformed successfully for many years around the world in thousands of structures and applications.

**Zenolex® GP** uncoated Polycarbonate sheet is the standard grade of **Zenolex®** sheet for the transparent protective glazing. **Zenolex®** can be used for primary glazing or on either side of existing glazing for economical protection against breakage or intrusion. A better insulation than glass, **Zenolex® GP** contribute to lower energy costs.

#### Key Features

- High Impact Strength
- Inherent Water Clear transparency
- Light weight, Thermoformable
- Easily cold formed
- Insulation

#### Product Applications

- Interior Glazing
- Fabricated Parts
- Machine Guards
- Helmet and Riot Shields
- Food and Medical Applications

# POLYCARBONATE GP

## TECHNICAL DATA SHEET

PROPERTY	TEST METHOD	UNITS	VALUE
<b>PHYSICAL</b>			
Specific Gravity	ASTM D792	-	1.20
Refractive Index @ 77°F	ASTM D542A	-	1.586
Light Transmission (Average), 1/8" disk	ASTM D1003	%	88
Rockwell Hardness	ASTM D785	-	M70
Abrasion Resistance, Taber Abrader, CS-17 wheel	ASTM D1044	mg/1,000 cycles	10
Water Absorption, Equilibrium, 24 hrs	ASTM D570	%	0.15
@73°F			0.35
@212°F			0.58
<b>MECHANICAL</b>			
Tensile Strength @ Yield	ASTM D638	psi	9,000
@ Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Flexural Strength	ASTM D790	psi	13,500
Flexural Modulus	ASTM D790	psi	345,000
Flexural Endurance @ 1,800 Cycles/Min, 73°F, 50% RH	ASTM D671	psi	1,000
Compressive Strength	ASTM D695	psi	12,500
Compressive Modulus	ASTM D695	psi	345,000
Elongation	ASTM D638	%	110
Poisson's Ratio	-	-	0.37
Izod Impact Strength Notched @ 1/8"	ASTM D256A	ft-lbs/in	12-16
Unnotched @ 1/8"			60(no failure)
Tensile Impact Strength S-Type Specimen	ASTM 1822	ft-lbs/in <sup>2</sup>	225-300
Shear Strength @ Yield	ASTM D732	psi	6,000
@ Ultimate			10,000
Shear Modulus	ASTM D732	psi	114,000
Deformation Under Load @ 4,000 psi @ 73°F	ASTM D621	%	0.2
@ 158°F			0.3
<b>THERMAL</b>			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75 x 10 <sup>-5</sup>
Coefficient of Thermal Conductivity	ASTM C177	Btu•in/hr•ft <sup>2</sup> •°F	1.35
Specific Heat @ 40°C		cal/gm/°C	0.30
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
@ 66 psi			280
Brittle Temperature	ASTM D746	°F	-211
Relative Thermal Index, Electrical Properties	UL746B	°C	130
Relative Thermal Index, Mechanical Properties with impact	UL746B	°C	125
Relative Thermal Index, Mechanical Properties without impact	UL746B	°C	125
<b>FLAMMABILITY</b>			
Horizontal Burn (Flame Spread) AEB	ASTM D635	in	<1
<b>ELECTRICAL</b>			
Dielectric Constant @ 10 Hz	ASTM D150	-	2.96
@ 60 Hz			3.17
Volume Resistivity	ASTM D257	ohm-cm	8.2 x 10 <sup>16</sup>
Power Factor @ 60 Hz	ASTM D150		0.0009
@1,000,000 Hz			0.010
Arc Resistance	ASTM D495	sec	
Stainless Steel Strip Electrodes			10-11
Tungsten Electrodes			120

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