

Trizod™ MG

Machine Grade Polycarbonate Shapes

Product Description

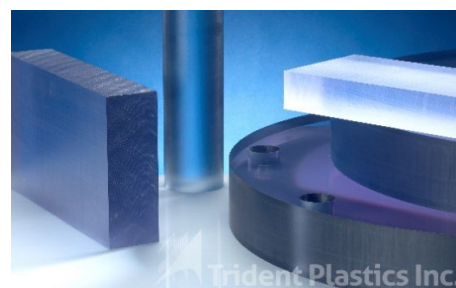
Trizod™ MG is an un-polished, ultraviolet-stabilized polycarbonate with excellent dimensional stability and good strength and stiffness over a wide range of temperatures. Trizod™ MG offers very high impact strength, high modulus of elasticity and a 270°F (132°C) heat deflection temperature at 264 psi. It also offers improved flammability performance over General Purpose PC. Its UL94 flammability rating is V2 at a thickness of 1.5 mm (0.059") and 3.0 mm (0.118") and V0 at a thickness of 6.0 mm (0.236"). Trizod™ MG can be used in applications requiring excellent impact strength, outstanding clarity, and uv-resistance. Trident's proprietary annealing process improves characteristics such as strength, chemical resistance, and increases dimensional stability over a wide temperature range which allows extensive machining to ensure close tolerances.

Characteristics

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

Applications

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



General

Annealed Plate: .250 through 5.00" thick

Plate sizes: 24x48 • 48x96

Extruded Rod: .250 through 12.00" diameter

Cut to size shapes and custom sizes available on request

Agency ratings: ASTM D3935 PC0136 ASTM D • UL94 V0

Standard color: Clear (Blue tint) • Black • White

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, Immersion at 73°F (23°C):					ASTM D570
24 Hours	0.12	%	0.12	%	
Equilibrium	0.30	%	0.30	%	
Mechanical	Nominal Value	Unit	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	9400	psi	65	Mpa	ASTM D638
Tensile Strength (Break)	10200	psi	70	Mpa	ASTM D638
Tensile Elongation (Yield)	6.50	%	6.50	%	ASTM D638
Tensile Elongation (Break)	115	%	115	%	ASTM D638
Tensile Modulus	350000	psi	2415	Mpa	ASTM D638
Flexural Stress at 5% strain	12500	psi	86	Mpa	ASTM D790
Flexural Modulus	340000	psi	2346	Mpa	ASTM D790
Impact	Nominal Value	Unit	Nominal Value	Unit	Test Method
Notched Izod Impact at .125"	18	ft-lb/inch	961	J/m	ASTM D256

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Hardness	Nominal Value Unit	Nominal Value Unit	Test Method
Rockwell Hardness	112 R scale	112 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	288 °F	142 °C	ASTM D648
Deflection Temperature 264 psi	270 °F	132 °C	ASTM D648
Coefficient of Linear Thermal Expansion	3.34 E-05 in/in/°F	6.0 E-05 mm/mm/°C	ASTM D696
Thermal Conductivity	1.39 Btu•in/(h•ft ² •°F)	0.20 W/(m•K)	ASTM C177
Relative Temperature Index: 0.059-in (1.5-mm) Thickness			(UL746B)
Mechanical without Impact	257 °F	125 °C	
Electrical	239 °F	115 °C	
Mechanical with Impact	257 °F	125 °C	
Specific Heat	0.28 Btu/lb•°F	1,172 J/(kg•K)	ASTM D2766
Vicat Softening Temperature	295 °F	146.23 °C	ASTM D1525

Electrical	Nominal Value Unit	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+16 ohms-cm	1.0E+16 ohms-cm	IEC 60093
Volume Resistivity	1.0E+16 ohms-cm	1.0E+16 ohms-cm	IEC 60093
Electrical Strength	860.000 V/mil	34.000 kV/mm	IEC 60243-1

Flammability	Nominal Value Unit	Nominal Value Unit	Test Method
Flammability Rating	VO @ .236	VO @ .236	UL94
Flash Ignition Temperature	896 °F	480.38 °C	ASTM D1929

Chemical Resistance

Trizod™ OP Optical Grade Polycarbonate

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 (inches)	Lbs / Sq Ft	6 x 6	6 x 12	6 x 48	12 x 24	12 x 48	24 x 48	48 x 96
.250"	1.56	--	--	--	--	--	12.48	49.92
.312"	1.97	--	--	--	--	--	15.72	62.90
.375"	2.34	--	--	--	--	9.36	18.72	74.88
.500"	3.12	--	--	--	--	12.48	24.96	99.84
.625"	3.90	0.98	1.95	7.80	7.80	15.60	31.20	124.80
.750"	4.68	1.17	2.34	9.36	9.36	18.72	37.44	149.76
.875"	5.46	1.37	2.73	10.92	10.92	21.84	43.68	174.72
1.00"	6.24	1.56	3.12	12.48	12.48	24.96	49.92	199.68
1.125"	7.02	1.76	3.51	14.04	14.04	28.08	56.16	224.64
1.25"	7.80	1.95	3.90	15.60	15.60	31.20	62.40	249.60
1.50"	9.36	2.34	4.68	18.72	18.72	37.44	74.88	299.52
1.75"	10.92	2.73	5.46	21.84	21.84	43.68	87.36	349.44
2.00"	12.48	3.12	6.24	24.96	24.96	49.92	99.84	399.36
2.250"	14.04	3.51	7.02	28.08	28.08	56.16	112.32	449.28
2.500"	15.60	3.90	7.80	31.20	31.20	62.40	124.80	499.20
2.750"	17.16	4.29	8.58	34.32	34.32	68.64	137.28	549.12
3.00"	18.72	4.68	9.36	37.44	37.44	74.88	149.76	599.04
3.250"	20.28	5.07	10.14	40.56	40.56	81.12	162.24	648.96
3.500"	21.84	5.46	10.92	43.68	43.68	87.36	174.72	698.88
4.00"	24.96	6.24	12.48	49.92	49.92	99.84	199.68	798.72
4.500"	28.08	7.02	14.04	56.16	56.16	112.32	224.64	898.56
5.00"	31.20	7.80	15.60	62.40	62.40	124.80	249.60	998.40

