AMCO POLYMERS

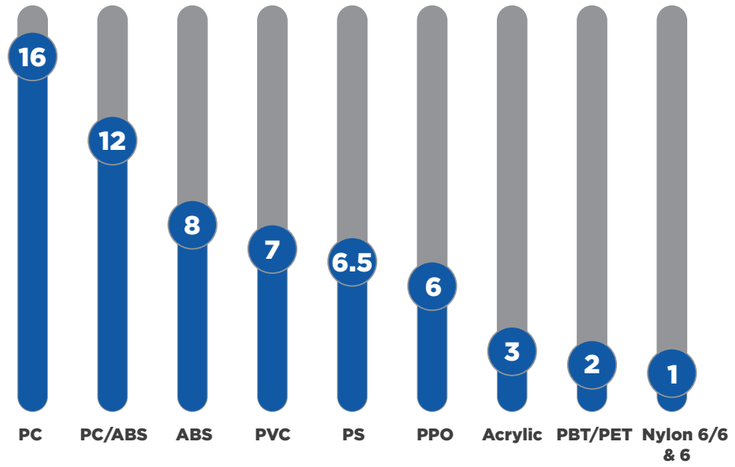
TRISTAR®

High-performance thermoplastic polycarbonates for everyday applications.

What is **TRISTAR®** Polycarbonate?

Polycarbonate (PC) is an amorphous thermoplastic with a glass transition temperature of approximately 150ºC (302ºF), allowing it to be used at elevated temperatures. When developing our TRISTAR® Polycarbonate, we modified PC to improve its chemical resistance, weather resistance and low temperature resistance, increasing its high impact absorption and strength properties.

Impact Strength Notched Izod ft-lbs/in



As an amorphous polymer, PC offers very good dimensional stability, uniform mold shrinkage and low propensity for warpage. PC is inherently transparent and therefore is well suited for use in applications requiring transparency, such as lenses, windows and signs.

PC also offers beneficial mechanical properties such as strength, stiffness and creep resistance as well as good temperature resistance. In addition, a wide range of additives can be used to produce PC products that have excellent UV resistance or flame retardancy. PC is a very versatile thermoplastic that can often be found in electrical / electronic applications such as housings, cell phones and computers to name a few.

Polymer Characteristics

- Very High Impact / Strength
- Transparency / Clarity
- High Temperature Resistance
- Dimensional Stability / Low warpage
- Mechanical Properties
- Effective Creep Resistance
- Excellent Electrical Properties
- Can Be Made Flame Retardant & UV Resistant

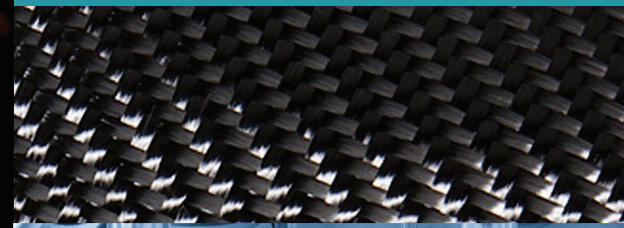
Processing Methods

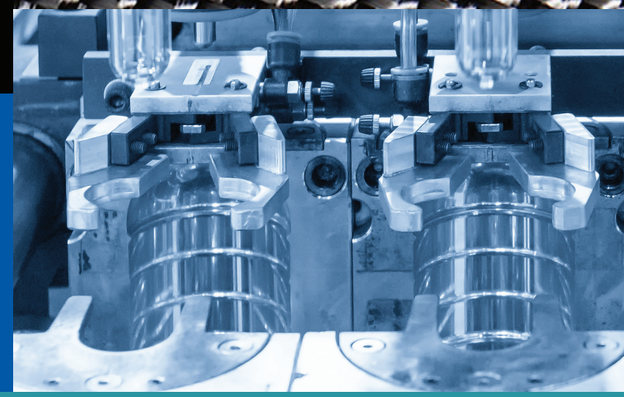
- Injection Molding
- Extrusion
- Blow Molding

What Can **TRISTAR®** Do For You?

Grades

- Hydrolysis Resistant Grades
- Glass Fiber
- Laser Markable
- Colors / Tints
- Flame Retardant
- UV Stabilized
- Lubricated
- Medical
- Lighting / Diffusion
- Branched
- Impact Modified
- High Flow
- PC Alloys
- F1 Ratings
- Halogen Compliant





Applications

- Lenses, Eyewear
- Safety Helmets
- Computer, Phone Housings
- Electrical Appliances
- Electrical Connectors
- Sporting Goods
- Circuit Breakers
- Electrical Meter Covers
- Telecom Applications
- Fiber Optic Components
- LED Lighting
- Small Lot Compounding Available

Property		Unit	Test Method	PC-10FRN-(V)(f1)
Physical	Specific Gravity, solid	•	ASTM D-792	1.23
	Melt Flow Index, 300°C,1.2Kg*	g/10 min	ASTM D-1238	15
	Mold Shrinkage	%	ASTM D-955	0.5-0.7
	Water Absorption, 24 hours 73°F	%	ASTM D-570	0.18
Mechanical	Tensile Strength, yield, 0.125"	PSI (MPa)	ASTM D-638	8,500 (59)
	Tensile Elongation, break, 0.125"	%	ASTM D-638	75
	Flexural Strength, yield, 0.125"	PSI (MPa)	ASTM D-790	12,500 (86)
	Flexural Modulus, 0.125"	10^5 PSI (MPa)	ASTM D-790	3.1 (2,137)
	Rockwell Hardness	R-Scale	ASTM D-785	120
Impact	Izod Impact Str., Notched, 0.125 "	ft.-lb./in. (J/m)	ASTM D-256	13.0 (693)
Thermal	Heat Deflection Temp. @ 264 PSI	°F (°C)	ASTM D-648	250 (121)
	HDT @1.8MPa	°F (°C)	ISO 75-A	273 (134)
Electric	Dielectric Strength, 0.125"	kv/m	ASTM D-149	24
	Volume Resistivity, 40 hours @ 23°C, 50% RH	ohm-cm	ASTM D-257	6.00E+15
	Volume Resistivity, 96 hours @ 90°C, 50% RH	ohm-cm	ASTM D-257	3.00E+15
UL	Hot Wire Ignition (HWI), 1.62 mm	PLC	ASTM D-3874	3
	Hot Wire Ignition (HWI), 3.0 mm	PLC	ASTM D-3874	2
	High Current Arc Ignition (HAI), @ 23°C, 50% RH, 1.62 mm	PLC	UL 746A	0
	High Current Arc Ignition (HAI), @ 23°C, 50% RH	PLC	UL 746A	1
	High Voltage Arc Tracking (HVTR), 3.0 mm	PLC	UL 746A	3
	High Voltage, Low Current Arc Resistance, 3.0mm	PLC	ASTM D-495	6
	Comparative Tracking Index (CTI), 3.0 mm	PLC	ASTM D-3638	2
	High Voltage Arc Resistance to Ignition, 1.6 mm	seconds	UL 746A	16
Relative Thermal Index	RELATIVE THERMAL INDEX UL 746B			
	Electrical			125
	Mechanical with impact			115
	Mechanical without impact			125
Flammability	Flammability All Colors	1.5 mm	UL94	V-O
	All Colors	3.0 mm	UL94	V-O
	Black, Gray, Beige Only	2.5 mm	UL94	5VA
	Limited Oxygen index	%	ASTM D-2863	37.6
	IEC GWFI	°C	IEC 695-2-1/2	960
	IEC GWIT	°C	IEC 695-2-1/2	775

Amco Polymers is an agile, solutions-focused distributor and compounding company with an extraordinary breadth in resin selection. For more than 60 years, Amco has provided customers with peace of mind by building genuine relationships, providing responsive 24-hour customer service and delivering with industry-leading logistics.

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