

PLASTIC-CRAFT

Polycarbonate

Bisphenol-A Polycarbonate (PC) — General Purpose & Specialty Grades

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High-impact, transparent thermoplastic with outstanding toughness and dimensional stability. Self-extinguishing with excellent heat resistance over a wide temperature range (–40°F to 240°F). Often specified where safety glazing, impact resistance, and flame retardance are critical.

STOCK AVAILABILITY

Plastic-Craft maintains extensive inventory across a wide range of standard and specialty sizes in sheets, rods, tubes, and custom profiles. Most orders ship from stock — contact us for immediate availability.

KEY HIGHLIGHTS

- 250× impact resistance vs glass
- Virtually unbreakable
- Self-extinguishing (V-2)
- Wide temp range
- Excellent dimensional stability

COMMON APPLICATIONS

- Machine guards & safety glazing
- Electronic components
- Medical devices
- Security windows
- Architectural glazing
- LED lenses & light covers
- Signage & displays

GRADES AVAILABLE

- Clear general purpose
- UV-stabilized
- Flame retardant (V-0)
- Abrasion resistant (coated)
- Colors & tints

MATERIAL PROPERTIES — TYPICAL VALUES

PROPERTY	ASTM	TYPICAL VALUE	UNITS
PHYSICAL			
Specific Gravity	D792	1.20	—
Water Absorption, 24h	D570	0.15	%
Melt Flow Rate	D1238	5 – 25	g/10 min
MECHANICAL			
Tensile Strength, Yield	D638	9,000	psi (62 MPa)
Tensile Modulus	D638	340,000	psi (2,340 MPa)
Elongation at Break	D638	110 – 150	%
Flexural Strength	D790	13,500	psi (93 MPa)
Flexural Modulus	D790	345,000	psi (2,380 MPa)
Compressive Strength	D695	12,500	psi (86 MPa)
Impact, Izod Notched	D256	12 – 16	ft-lb/in (640–854 J/m)
Rockwell Hardness	D785	M70 / R118	Scale M / R
OPTICAL			
Light Transmission	D1003	88	%
Haze	D1003	< 1	%
Refractive Index	D542	1.586	—
THERMAL			
Heat Deflection @ 264 psi	D648	270	°F (132°C)
Heat Deflection @ 66 psi	D648	285	°F (140°C)
Vicat Softening Temp.	D1525	305	°F (152°C)
CTE (Linear)	D696	3.8 × 10 ^{–5}	in/in/°F
Thermal Conductivity	C177	1.35	BTU·in/hr·ft²·°F
Max Continuous Service	–	250	°F (121°C)
ELECTRICAL			
Volume Resistivity	D257	> 10 ¹⁶	ohm·cm
Surface Resistivity	D257	> 10 ¹⁵	ohm/sq
Dielectric Strength	D149	380	V/mil (15 kV/mm)
Dielectric Constant, 60Hz	D150	3.17	—
FLAMMABILITY			
Horizontal Burn Rate	D635	SE	Self-Extinguishing
UL Flammability Rating	UL 94	V-2	—
Smoke Density (Ds at 4 min)	E662	50 – 100	—
DURABILITY			
Abrasion Resistance (Taber)	D1044	10 – 15	mg/1000 cycles
Weathering / UV	G154	Good (w/ UV coat)	5+ yr outdoor

PROCESSING / FABRICATION NOTES: Thermoforms at 350–390°F | Solvent bonded: methylene chloride, Weld-On® 55 | Pre-dry 250°F / 2–4 hr before thermoforming | Use sharp tools; avoid excessive heat buildup

CHEMICAL RESISTANCE: Resistant to dilute acids, aliphatic hydrocarbons, mineral oils & greases. AVOID: strong bases, ketones (acetone), esters, aromatic & chlorinated solvents, ammonia (stress cracking).

Typical values; not to be used as specifications. Actual values may vary by grade, manufacturer, and processing conditions. Contact Plastic-Craft for grade-specific data.