

PLASTIC-CRAFT

Polypropylene

PP Homopolymer & Copolymer

845-358-3010
ecom@plastic-craft.com
www.plastic-craft.com

The lightest of all commodity thermoplastics with superior chemical resistance, excellent fatigue life (integral living hinges), and the highest heat resistance among polyolefins. FDA/USDA compliant, autoclavable, and widely used in chemical processing and plating tanks.

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

- Lightest thermoplastic (SG 0.90)
- Outstanding chemical resistance
- Autoclavable (250°F)
- Excellent fatigue resistance
- Good hinge / flex life
- FDA / USDA compliant
- ✓ Only commodity plastic that withstands autoclave sterilization

COMMON APPLICATIONS

- Chemical tanks & fume hoods
- Plating tanks & wet benches
- Orthotic & prosthetic devices
- Lab equipment & trays
- Food processing equipment
- Packaging & containers
- Pump & valve components

GRADES AVAILABLE

- Homopolymer (natural)
- Copolymer (improved impact)
- Flame retardant
- FDA-compliant
- UV-stabilized (black)
- Stress-relieved

MATERIAL PROPERTIES — TYPICAL VALUES (HOMOPOLYMER)

PROPERTY	ASTM	TYPICAL VALUE	UNITS
PHYSICAL			
Specific Gravity	D792	0.90	—
Water Absorption, 24h	D570	< 0.01	%
MECHANICAL			
Tensile Strength, Ultimate	D638	5,000	psi (34 MPa)
Tensile Modulus	D638	200,000	psi (1,380 MPa)
Elongation at Break	D638	150	%
Flexural Strength	D790	7,000	psi (48 MPa)
Flexural Modulus	D790	200,000	psi (1,380 MPa)
Compressive Strength (10%)	D695	6,000	psi (41 MPa)
Impact, Izod Notched	D256	1.9	ft-lb/in (101 J/m)
Hardness, Rockwell	D785	R95	—
Hardness, Shore D	D2240	72	Shore D
THERMAL			
Heat Deflection @ 264 psi	D648	135	°F (57°C)
Heat Deflection @ 66 psi	D648	240	°F (116°C)
Melting Point	D3418	330	°F (166°C)
Max Continuous Service	—	210	°F (99°C)
CTE (Linear)	D696	4.8 × 10 ⁻⁵	in/in/°F
Thermal Conductivity	C177	0.8	BTU·in/hr·ft²·°F
ELECTRICAL			
Volume Resistivity	D257	> 10 ¹⁶	ohm·cm
Dielectric Strength	D149	500	V/mil (20 kV/mm)
Dielectric Constant, 1MHz	D150	2.3	—
FLAMMABILITY			
UL Flammability Rating	UL 94	HB	FR grades available
Horizontal Burn Rate	D635	1.0	in/min (25 mm/min)
DURABILITY			
Abrasion Resistance (Taber)	D1044	15	mg/1000 cycles
Weathering / UV	G154	Poor	UV-stab. grades avail.

PROCESSING / FABRICATION NOTES: Machines well with sharp tooling | Weldable by hot plate, hot gas & extrusion | Excellent hinge / flex fatigue life | Not bondable with solvent cements — use mechanical fastening or specialty adhesives | Notch-sensitive — use generous radii

CHEMICAL RESISTANCE: Outstanding — resistant to most acids, bases, alcohols, and aqueous solutions. One of few plastics suitable for hot acid plating environments. **AVOID:** strong oxidizing acids, chlorinated & aromatic hydrocarbons at elevated temperatures. Poor UV stability without additives.

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.