Injection Molding Plastics

Material	Description	Tensile Yield (0.125 in2)	Flexural Strength	Flexural Modulus	Izod Impact Strength (Notched)	Heat Deflection Under Load	Density
ABS	Common thermoplastic with good impact resistance and toughness.	6,500 psi (45 MPa)	11,700 psi (80 MPa)	380,000 psi (2,620 MPa)	5.5 ft-lb/in (292 J/m)	190°F (88°C)	0.0379 lb/in^3 (1.05 g/cc)
Polypropylene	Thermoplastic polymer used for a wide number of applications.	4,900 psi (35 MPa)	26,100 psi (180 MPa)	210,000 psi (1,450 MPa)	0.6 ft-lb/in (32 J/m)	219°F (102°C)	0.0324 lb/in^3 (0.90 g/cc)
Polyoxymethylene (POM)	Dimensionally stable thermoplastic with high stiffness and low friction.	10,000 psi (70 MPa)	14,000 psi (100 MPa)	450,000 psi (3,100 MPa)	1.41 ft-lb/in (75 J/m)	216°F (102°C)	0.0513 lb/in^3 (1.42 g/cc)*
Polycarbonate	Thermoplastic material with good temperature resistance and impact strength.	9,000 psi (62 MPa)	18,000 psi (124 MPa)	340,000 psi (2,335 MPa)	15 ft-lb/in (795 J/m)*	290°F (143°C)	0.0434 lb/in^3 (1.20 g/cc)
Polycarbonate / ABS	Blend of PC and ABS that creates strong parts for a variety of applications.	8,000 psi (55 MPa)	13,000 psi (90 MPa)	370,000 psi (2,550 MPa)	13 ft-lb/in (689 J/m)	202°F (94°C)	0.0415 lb/in^3 (1.15 g/cc)
PVC	PVC is a polymer with good insulation properties, high hardness, and good mechanical properties.	4,500 psi (31 MPa)	7,150 psi (50 MPa)	275,000 psi (1,900 MPa)	15 ft-lb/in (795 J/m)*	226°F (108°C)	0.0487 lb/in^3 (1.35 g/cc)
Nylon	Polymer material that is durable with high elongation and good abrasion resistance.	8,400 psi (58 MPa)	9,430 psi (65 MPa)	175,000 psi (1,200 MPa)	2.1 ft-lb/in (111 J/m)	190°F (88°C)	0.0411 lb/in^3 (1.14 g/cc)

Material	Description	Tensile Yield (0.125 in2)	Flexural Strength	Flexural Modulus	Izod Impact Strength (Notched)	Heat Deflection Under Load	Density
Nylon 32% Glass Fiber	Polymer with excellent mechanical stiffness and elevated temperature resistance.	18,000 psi (125 MPa)*	29,000 psi (200 MPa)	900,000 psi (6,200 MPa)*	2.5 ft-lb/in (133 J/m)*	380°F (193°C)	0.0498 lb/in^3 (1.38 g/cc)
Acrylic (PMMA)	Material with resistance to breakage often used for transparent applications.	9,400 psi (65 MPa)	8,500 psi (58 MPa)	250,000 psi (1,725 MPa)	1.0 ft-lb/in (53 J/m)	181°F (83°C)	0.0422 lb/in^3 (1.17 g/cc)
Styrene	Light weight material popular for its high impact strength and toughness.	6,530 psi (45 MPa)	9,510 psi (65 MPa)	440,000 psi (3,030 MPa)	1.9 ft-lb/in (101 J/m)*	174°F (79°C)	0.0379 lb/in^3 (1.05 g/cc)
Polyetherimide (PEI)	Thermoplastic with high heat resistance and excellent mechanical properties.	16,000 psi (110 MPa)	24,000 psi (165 MPa)	510,000 psi (3,500 MPa)	1.0 ft-lb/in (53 J/m)	400°F (204°C)*	0.0549 lb/in^3 (1.27 g/cc)*

* Exceptional Properties
Note: Material properties are for general reference purpose only. Actual values may vary based on specific material selected.