

RedEye On Demand Polycarbonate High Impact Strength & Temperature Resistant for Rapid Prototyping

Category : Polymer , Rapid Prototyping Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Polycarbonate (PC) is an actual industrial-grade thermoplastic that is impact-resistant and structurally strong. PC parts are built with a layered manufacturing process utilizing Fused Deposition Modeling (FDM) technology, often used in rapid prototyping. Polycarbonate parts produced with FDM are dimensionally stable and will not shrink, warp, or absorb moisture. This high-performance engineering material can handle greater forces and loads than ABS material and is ideal for functional prototypes and end-use parts. Applications Due to its high impact strength and compressive strength, Polycarbonate is used in a myriad of applications including cell phones, business equipment, computer products, manufacturing fixtures, and a wide variety of consumer products, such as appliances. Parts built from PC can also be used as masters for RTV molds and vacuum forming, vacuum metallization and electroplating. In a rapid manufacturing application, Polycarbonate can be used to create actual production parts in lieu of injection molding for short-run production. Rapid (or layered) manufacturing provides multiple benefits: High design iterations – while in production the design engineer has the freedom to modify geometry's on the fly which cannot be done once you have committed to tooling Bridge manufacturing – with rapid manufactured parts, production can begin while permanent tooling is on order Jigs and Fixtures to be used on manufacturing/production lines For those manufacturers who practice lean manufacturing techniques or who maintain just-in-time inventories, RM can conserve cash flow Alpha and beta product releases – manufacturers can produce accurate, durable products even in the earliest stages of production

Order this product through the following link:

http://www.lookpolymers.com/polymer_RedEye-On-Demand-Polycarbonate-High-Impact-Strength-Temperature-Resistant-for-Rapid-Prototyping.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	
Tensile Strength, Yield	52.0 MPa	7540 psi	ASTM D638
Elongation at Break	3.0 %	3.0 %	ASTM D638
Tensile Modulus	2.00 GPa	290 ksi	ASTM D638
Flexural Yield Strength	97.0 MPa	14100 psi	ASTM D790
Flexural Modulus	2.137 GPa	310.0 ksi	ASTM D790
Izod Impact, Notched	0.534 J/cm	1.00 ft-lb/in	ASTM D256
Izod Impact, Unnotched	2.67 J/cm	5.00 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
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Thermal Properties	68.4 μm/m-°C Metric	38.0 μin/in-°F English	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Maximum Service Temperature, Air	127 °C	261 °F	HDT unspecified pressure; ASTM D648
Glass Transition Temp, Tg	161 °C	322 °F	DMA (SYSS)
Flammability, UL94	V-2	V-2	
	@Thickness 1.10 mm	@Thickness 0.0433 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.17	3.17	IEC 60250
	@Frequency 6.00e+7 Hz	@Frequency 6.00e+7 Hz	
Dielectric Strength	15.0 kV/mm	381 kV/in	IEC 60112

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