RedEye
PARTS FOR PROTOTYPE AND PRODUCTION · ON DEMAND

Polycarbonate-ISO (PC-ISO)

PC-ISO (polycarbonate-ISO), an industrial thermoplastic, in its raw state meets the ISO 10993-1 and USP Class VI classification1 and comes in a variety of colors. Because of their strength and medical compatibility, PC-ISO blends are commonly used in food and drug packaging and medical device manufacturing. PC-ISO gives you Real Parts™ that can be functionally utilized from conceptual prototyping through design verification through direct digital manufacturing.

Note: PC-ISO meets both ISO 10993-1 and USP Class VI standards in its raw state. Parts produced from the FDM (Fused Deposition Modeling) process must be re-certified before using in these types of applications. It is the responsibility of the finished device manufacturer to make a determination of the suitability of all the component parts and materials to be used in the finished products.

Mechanical Properties[2]	Test Method	Metric	Imperial
Tensile Strength, Type 1, 0.125	ASTM D638	52 MPa	7,500 psi
Tensile Modulus, Type 1, 0.125	ASTM D638	1,744 MPa	253,000 psi
Tensile Elongation, Type 1, 0.125	ASTM D638	5 %	5 %
Flexural Strength	ASTM D790	82 MPa	11,830 psi
Flexural Modulus	ASTM D790	2,193 MPa	318,000 psi
IZOD Impact, notched	ASTM D256	53.39 J/a	1 ft-lb/in
IZOD Impact, un-notched	ASTM D256	480.5 J/a	9 ft-lb/in

Thermal Properties	Test Method	Metric	Imperial
Heat Deflection Temperature @ 66 psi	ASTM D648	133° C	271° F
Heat Deflection Temperature @ 264 psi	ASTM D648	127° C	260° F
Glass Transition Temperature (Tg)	DMA (SSYS)	161° C	322° F
Vicat Softening	ISO 306	139° C	282° F
Melt Point	- - - - - - - -	Not Applicable[3]	Not Applicable[3]

Other	Test Method	Value
Specific Gravity	ASTM D792	1.20
Flame Classification	UL 94	HB
Dielectric Constant @ 60hz	IEC 60250	3.17
Dielectric Constant @ 1Mhz	IEC 60250	2.96

APPEARANCE: White, Natural Translucent (no color)

APPLICATIONS: pharmaceutical material handling, processing, and packaging systems; surgical instruments; food handling and processing systems; automotive lighting; and rapid manufacturing of end-use products.

BENEFITS of Direct Digital Manufacturing:

- Multiple design iterations -design engineers have the flexibility to modify geometry's while in production, which incurs cost and time penalties when tooling starts
- Bridge manufacturing - rapid manufacturing allows you to start production while waiting for your tool to build
- Jigs and Fixtures - Use additive fabrication as a light-weight, lower cost tool for assembly and manufacturing aids during the production of your parts
- Just-in-time or lean manufacturing - DDM can conserve cash flow for manufacturers
- Alpha and Beta product releases - produce accurate, durable products during the early design validation stages - even if you already committed to tooling

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions.

1 It is the responsibility of the finished device manufacturer to make a determination of the suitability of all the component parts and materials to be used in the finished products. 2 Build orientation is on side edge. 3 Due to amorphous nature, material does not exhibit a melting point..

For more information about Redeye services and materials, contact your representative at + 61 1300 559 454 or visit www.redeyerpm.com.au

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