RedEye

PARTS FOR PROTOTYPE AND PRODUCTION · ON DEMAND

ABS-M30

Acrylonitrile/butadiene/styrene

ABS-M30 is 25-70 percent stronger than standard ABS and is an ideal material for conceptual prototyping, design verification and direct digital manufacturing. ABS-M30 has greater tensile, impact and flexural strength than standard ABS. Layer bonding is significantly stronger than that of standard ABS, for a more durable part. This results in more realistic functional tests and higher quality parts for end use. When combined with a Stratasys FDM mc™ series system, ABS-M30 gives you Real Parts™ that are stronger, smoother and with better feature detail.

Mechanical Properties[2]	Test Method	Imperial	Metric
Tensile Strength (Type 1, 2"/min)	ASTM D638	5,200 psi	36 MPa
Tensile Modulus	ASTM D638	350,000 psi	2,413 MPa
Tensile Elongation	ASTM D638	4 %	4 %
Flexural Stress (Method 1, 0.05"/min)	ASTM D790	8,800 psi	61 MPa
Flexural Modulus	ASTM D790	336,000 psi	2,317 MPa
Flexural Elongation	ASTM D790	52 %	52 %
IZOD Impact, notched (Method A, 23 °C)	ASTM D256	2.6 ft-lb/in	139 J/m
IZOD Impact, un-notched (Method A, 23 °C)	ASTM D256	5.3 ft-lb/in	283 J/m

Thermal Properties[3]	Test Method	Imperial	Metric
Heat Deflection (HDT) @ 66 psi, 0.125", unannealed	ASTM D648	204° F	96° C
Heat Deflection (HDT) @ 264 psi, 0.125", unannealed	ASTM D648	180° F	82° C
Vicat Softening Temp. (Rate B/50)	ASTM D1525	210° F	99° C
Coefficient of Thermal Expansion (flow, -40F to 100F)	ASTM E831	4.9E-05 in/in/°F	8.82E-05 mm/mm/ °C
Coefficient of Thermal Expansion (xflow, -40F to 100F)	ASTM E831	4.7E-05 in/in/°F	8.46E-05 mm/mm/°C
Glass Transition (Tg)	DSC (SSYS)	226°F	108°F
Melt Point	----------	Not Applicable[4]	Not Applicable[4]

Other[3]	Test Method	Value
Specific Gravity	ASTM D792	1.04
Vertical Burning Test (Flame)	UL 94	HB (0.06", 0.85mm)
Rockwell Hardness	ASTM D785	109.5
Dielectric S (kV/mm)	IEC 60112	28

APPEARANCE: Natural (off-white), black, dark gray, blue and red

APPLICATIONS: automotive body parts, dash boards, components and housings, electronic enclosures for business machines and consumer products; sporting goods; manufacturing fixtures; handles and enclosures for power tools; prototypes and end-use parts in other industries such as aerospace, medical, toys and industrial goods.

BENEFITS of Direct Digital Manufacturing:

- High design iterations – while in production the design engineer has the freedom to modify geometry's on the fly which cannot be done once
- Bridge manufacturing – with rapid manufactured parts, production can begin while permanent tooling in 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 you have 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. Test parts were built on FDM400mc @ 0.10" (0.254 mm) slice. Product specifications are subject to change without notice.

[1] It is the responsibility of the finished device manufacturer to determine the suitability of all the component parts and materials used in their finished products. [2] Build orientation is on side long edge. [3] Literature value unless otherwise noted. [4] Due to amorphous nature, material does not display a melting point.

For more information about Redeye services and materials, contact your representative at +1 866-882-6934 or visit www.redeyeondemand.com

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