



Redeye

PARTS FOR PROTOTYPE AND PRODUCTION • ON DEMAND

ABS-M30i

Biocompatible
Acrylonitrile/butadiene/styrene



ABS-M30i is a high strength material well suited for the medical and food packaging industries. Parts manufactured with ABS-M30i material are biocompatible (ISO 10993 certified)¹ and can be gamma or EtO sterilized. When combined with a Stratasys FDM mc™ series system, ABS-M30i gives you biocompatible Real Parts™ with excellent mechanical properties that are well suited for prototyping and direct digital manufacturing.

| 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)

APPLICATIONS: ideal for the medical and food packaging industries, also durable enough for 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:

- 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. 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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