



Redeye

PARTS FOR PROTOTYPE AND PRODUCTION • ON DEMAND

ABSi

Methyl methacrylate-acrylonitrile-butadiene-styrene copolymer



Redeye is the only company that gives engineers the ability to manufacture real ABSi industrial thermoplastic parts direct from digital files. ABSi parts can be used from conceptual prototyping through design verification through direct digital manufacturing. Its strength is superior to ABS and the translucent nature of ABSi is beneficial for monitoring material flow and light transmission, most commonly used for medical and automotive applications. When combined with FDM (Fused Deposition Modeling) systems, ABSi gives you Real Parts™ that are visually unique, dimensionally accurate, durable and hold shape over time.

Mechanical Properties ¹	Test Method	Metric	Imperial
Tensile Strength	ASTM D638	37 MPa	5,400 psi
Tensile Modulus	ASTM D638	1,915 MPa	277,700 psi
Tensile Elongation	ASTM D638	3.1 %	3.1 %
Flexural Strength	ASTM D790	61 MPa	8,830 psi
Flexural Modulus	ASTM D790	1,820 MPa	264,000 psi
IZOD Impact, notched	ASTM D256	101.4 J/a	1.9 ft-lb/in
IZOD Impact, un-notched	ASTM D256	218.9 J/a	4.1 ft-lb/in

Thermal properties	Test Method	Metric	Imperial
Heat Deflection Temperature @ 66 psi	ASTM D648	87° C	188° F
Heat Deflection Temperature @ 264 psi	ASTM D648	73° C	163° F
Glass Transition Temperature (Tg)	DMA (SSYS)	116° C	240° F
Coefficient of Thermal Expansion	ASTM D696	12.1*10 ⁻⁵ mm/mm/C	6.7x10 ⁻⁶ in/in/F
Melt Point	-----	Not Applicable ²	Not Applicable ²

Other	Test Method	Value
Specific Gravity	ASTM D792	1.08
Rockwell Hardness	ASTM D785	R108
Flame Classification	UL 94	HB

APPEARANCE: translucent (natural), red translucent and amber translucent.

APPLICATIONS: automotive lenses or other applications where transparency is required.

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 Build orientation is on side edge. ² Do to amorphous nature, material does not display 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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