Stratasys ABS-M30i

Acrylonitrile Butadiene Styrene

Stratasys

Message:

Production-Grade Thermoplastic for Fortus 3D Production Systems
ABS-M30i is a high strength material well suited for the medical, pharmaceutical and food packaging industries. Parts manufactured with ABS-M30i material are biocompatible (ISO 10993 USP Class VI) and can be gamma or EtO sterilized. When combined with Fortus® 3D Production Systems, ABS-M30i gives you biocompatible Real Parts™ with excellent mechanical properties that are well suited for conceptual modeling, functional prototyping, manufacturing tools, and end-use-parts.

General Information	
Features	Biocompatible
	Durable
	Ethylene Oxide Sterilizable
	Good Chemical Resistance
	High Heat Resistance
	High Impact Resistance
	High Strength
	Radiation Sterilizable
Uses	Engineering Parts
	Food Packaging
	Medical Devices
	Medical/Healthcare Applications
	Modeling Material
	Packaging
	Pharmaceutical Packaging
	Pharmaceuticals
	Prototyping
Agency Ratings	USP Class VI
Appearance	Ivory
Processing Method	3D Printing, Fused Filament Fabrication (FFF)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm³	ASTM D792
Thickness - Layer Capability	127.0 to 330.2	µm	
Volume Resistance [1]	6.0E+13 to 1.5E+14	ohms	ASTM D257

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness	110		ASTM D785

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus [2] (3.18 mm)	2410	MPa	ASTM D638

Tensile Strength [3] (3.18 mm)	35.9	MPa	ASTM D638
Tensile Elongation [4] (Break, 3.18 mm)	4.0	%	ASTM D638
Flexural Modulus [5]	2320	MPa	ASTM D790
Flexural Strength [6]	60.7	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	140	J/m	ASTM D256A
Unnotched Izod Impact (23°C)	280	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.18 mm	95.6	°C	
1.8 MPa, Unannealed, 3.18 mm	82.2	°C	
Glass Transition Temperature	108	°C	DSC
Vicat Softening Temperature	98.9	°C	ASTM D1525 [7]
CLTE			ASTM E831
Flow	8.8E-5	cm/cm/°C	
Transverse	8.5E-5	cm/cm/°C	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength	3.1 to 15	kV/mm	ASTM D149
Dielectric Constant [8]	2.70 to 2.90		ASTM D150
Dissipation Factor [9]	5.1E-3 to 5.3E-3		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (1.50 mm)	HB		UL 94
NOTE			
1.	All Electrical Property values were generated from the average of test plaques built with default part density (solid). Test plaques were 4.0 x 4.0 x 0.1 inches (102 x 102 x 2.5 mm) and were built both in the flat and vertical orientation. The range of values is mostly the result of the difference in properties of test plaques built in the flat vs. vertical orientation.		
2.	Type I, 5.1 mm/min		
3.	Type I, 5.1 mm/min		
4.	Type I, 5.1 mm/min		
5.	Method I (3 point load), 1.3 mm/min		
6.	Method I (3 point load), 1.3 mm/min		
7.	Rate B (120°C/h), Loading 2 (50 N)		

8.	All Electrical Property values were generated from the average of test plaques built with default part density (solid). Test plaques were 4.0 x 4.0 x 0.1 inches (102 x 102 x 2.5 mm) and were built both in the flat and vertical orientation. The range of values is mostly the result of the difference in properties of test plaques built in the flat vs. vertical orientation.
9.	All Electrical Property values were generated from the average of test plaques built with default part density (solid). Test plaques were 4.0 x 4.0 x 0.1 inches (102 x 102 x 2.5 mm) and were built both in the flat and vertical orientation. The range of values is mostly the result of the difference in properties of test plaques built in the flat vs. vertical orientation.

Recommended distributors for this material

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