# Stratasys ABSi

### Acrylonitrile Butadiene Styrene

#### Stratasys

#### Message:

#### Production-Grade Thermoplastic for Fortus 3D Production Systems

Fortus® 3D Production Systems give engineers the ability to manufacture real industrial thermoplastic parts direct from digital files. Stratasys ABSi is an ideal material for conceptual modeling, functional prototyping and direct digital manufacturing. Its strength is superior to standard Stratasys 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 a Fortus 3D production system, ABSi gives you Real Parts<sup>™</sup> that are visually unique, dimensionally accurate, durable and hold their shape over time.

General Information			
Features	Durable		
	Good Chemical Resistance		
	Good Sterilizability		
	Good Strength		
	High Heat Resistance		
	High Impact Resistance		
Uses	Automotive Applications		
	Engineering Parts		
	Medical/Healthcare Applications		
	Modeling Material		
	Prototyping		
Appearance	Clear Amber		
	Red		
	Translucent		
Processing Method	3D Printing, Fused Filament Fabrication (FFF)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.08	g/cm³	ASTM D792
Thickness - Layer Capability	127.0 to 330.2	μm	
Volume Resistance <sup>1</sup>	1.5E+9 to 6.1E+10	ohms	ASTM D257
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	108		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus <sup>2</sup> (3.18 mm)	1910	MPa	ASTM D638
Tensile Strength <sup>3</sup> (3.18 mm)	37.2	MPa	ASTM D638
Tensile Elongation <sup>4</sup> (Break, 3.18 mm)	4.4	%	ASTM D638
Flexural Modulus <sup>5</sup>	1920	MPa	ASTM D790
Flexural Strength <sup>6</sup>	61.9	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	96	J/m	ASTM D256A
Unnotched Izod Impact (23°C)	190	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.18 mm	86.7	°C	
1.8 MPa, Unannealed, 3.18 mm	72.8	°C	
Glass Transition Temperature	116	°C	DMA
CLTE - Flow	1.2E-5	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength	3.9 to 13	kV/mm	ASTM D149
Dielectric Constant <sup>7</sup>	3.40 to 3.60		ASTM D150
Dissipation Factor <sup>8</sup>	0.12 to 0.15		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	НВ		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		

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