DASI 3D SOLUTIONS

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ABS*plus*

Production - Grade Thermoplastic

ABSplus™ is a true production-grade thermoplastic that is durable enough to perform virtually the same as production parts. When combined with Design Series 3D Printers, ABSplus is ideal for building 3D models and prototypes in an office environment.

MECHANICAL PROPERTIES	TEST METHOD	ENGLISH XZ AXIS	METRIC XZ AXIS
Tensile Strength, Ultimate (Type 1, 0.125", 0.2"/min)	ASTM D638	4,700 psi	33 MPa
Tensile Strength, Yield (Type 1, 0.125", 0.2"/min)	ASTM D638	4,550 psi	31 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	320,000 psi	2,200 MPa
Tensile Elongation at Break (Type 1, 0.125", 0.2"/min)	ASTM D638	6%	6%
Tensile Elongation at Yield (Type 1, 0.125", 0.2"/min)	ASTM D638	2%	2%
IZOD Impact, notched (Method A, 23°C)	ASTM D256	2.0 ft-lb/in	106 J/m

MECHANICAL PROPERTIES	TEST METHOD	ENGLISH		METRIC	
		XZ AXIS	ZX AXIS	XZ AXIS	ZX AXIS
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	8,450 psi	5,050 psi	58 MPa	35 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	300,000 psi	240,000 psi	2,100 MPa	1,650 MPa
Flexural Strain at Break (Method 1, 0.05"/min)	ASTM D790	4%	4%	2%	2%

THERMAL PROPERTIES[2]	TEST METHOD	ENGLISH	METRIC
Heat Deflection (HDT) @ 66 psi	ASTM D648	204°F	96°C
Heat Deflection (HDT) @ 264 psi	ASTM D648	180°F	82°C
Glass Transition Temperature (Tg)	DSC (SSYS)	226°F	108°C
Melting Point	- - - - - - - - -	Not Applicable[3]	Not Applicable[3]
Coefficient of Thermal Expansion	ASTM E831	4.90×10^{-05} in/in/°F	8.82×10^{-05} mm/mm/°C

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.

The performance characteristics of these materials may vary according to application, operating conditions, or end use. Each user is responsible for determining that the Stratasys material is safe, lawful, and technically suitable for the intended application, as well as for identifying the proper disposal (or recycling) method consistent with applicable environmental laws and regulations. Stratasys makes no warranties of any kind, express or implied, including, but not limited to, the warranties of merchantability, fitness for a particular use, or warranty against patent infringement.

ELECTRICAL PROPERTIES[4]	TEST METHOD	VALUE RANGE
Volume Resistivity	ASTM D257	2.6×10^{15} - 5.0×10^{16} ohm-cm
Dielectric Constant	ASTM D150-98	2.3 - 2.85
Dissipation Factor	ASTM D150-98	0.0046 - 0.0053
Dielectric Strength	ASTM D149-09, Method A, XZ Orientation	130 V/mil
Dielectric Strength	ASTM D149-09, Method A, ZX Orientation	290 V/mil

OTHER[2]	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1.04
Flame Classification	UL94	HB (0.09", 2.50mm)
UL File Number	- - - - - - - - -	E345258
Rockwell Hardness	ASTM D785	109.5

SYSTEM AVAILABILITY	LAYER THICKNESS CAPABILITY	SUPPORT STRUCTURE	AVAILABLE COLORS	
uPrint SE™	0.013 inch (0.330 mm)	Soluble Supports	Ivory[6]	White
uPrint SE Plus™	0.010 inch (0.254 mm)	Breakaway Supports	Black	Dark Grey
Dimension Elite™	0.007 inch (0.178 mm)[5]	(BST 1200es only)	Red	Blue
Dimension SST 1200es™			Olive Green	Nectarine
Dimension BST 1200es™			Fluorescent Yellow	
Fortus 250mc™				

1Build orientation is on side long edge. 2Literature value unless otherwise noted. 3 Due to amorphous nature, material does not display a melting point. 4All Electrical Property values were generated from the average of test plaques built with default part density (sparse). 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. 50.007 inch (0.178 mm) layer thickness.