ABS*plus*-P430

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

Electrical Properties[3]	Test Method	Value	
		XZ Axis	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	Value	
		XZ Axis	ZX Axis
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	58 MPa (8,450 psi)	35 MPa (5,050 psi)
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	2,100 MPa (300,000 psi)	1,650 MPa (240,000 psi)
Flexural Strain at Break (Method 1, 0.05"/min)	ASTM D790	2% (4%)	2% (4%)

Thermal Properties[2]	Test Method	Value
Heat Deflection (HDT) @ 66 psi	ASTM D648	96 °C (204 °F)
Heat Deflection (HDT) @ 264 psi	ASTM D648	82 °C (180 °F)
Glass Transition Temperature (Tg)	DSC (SSYS)	108 °C (226 °F)
Melting Point	---------	Not Applicable[3] (Not Applicable[3])
Coefficient of Thermal Expansion	ASTM E831	8.82x10-05 mm/mm/°C (4.90x10-05 in/in/°F)

Electrical Properties[4]	Test Method	Value Range
Volume Resistivity	ASTM D257	2.6x1015 - 5.0x1016 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
Rockwell Hardness	ASTM D785	109.5

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System Availability	Layer Thickness Capapbility	Support Structure	Available Colors
uPrint SE Plus™	0.013 inch (0.330 mm) 0.010 inch (0.254 mm) 0.007 inch (0.178 mm)[5]	Soluble Support	Ivory White Black Dark Grey Red Blue Olive Green Nectarine Fluorescent Yellow

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, color etc. Actual values will vary with build conditions. Product specifications are subject to change without notice.

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.

[1]Build orientation is on side long edge.

[2]Literature value unless otherwise noted.

[3] Due to amorphous nature, material does not display a melting point.

[4]All 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.

[5] 0.007 inch (0.178 mm) layer thickness available on Dimension Elite and Fortus 250mc only.

[6] Ivory is the only color option for uPrintSE. The test data was collected using ABS*plus* Ivory (Natural) specimens. ABS*plus* colored materials will have similar properties, but can vary up to 10%.

Orientation: See Stratasys Testing white paper for more detailed description of build orientations.

XZ = X or “on edge”

XY = Y or “flat”

ZX = or “upright”

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