

ABSplus™ -P430

MATERIAL DATA SHEET

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.

Quick Facts:

- Production grade thermoplastic
- Durable and long-lasting
- Great for usable parts

Color options:

Ivory, White, Black, Dark Grey, Red, Blue, Olive, Green, Nectarine, Fluorescent Yellow



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	4,500 psi	8 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

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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	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
Melt Point	-----	Not Applicable	Not Applicable
Coefficient of Thermal Expansion	ASTM E831	4.90E-05 in/in/°F	8.82E-05 mm/mm/°C

ELECTRICAL PROPERTIES	TEST METHOD	VALUE RANGE
Volume Resistivity	ASTM D257	2.6E15 - 5.0E16 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	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