



3D COMPOSITES

Transforming ideas into 3-dimensional objects

PC-ABS

PC-ABS (polycarbonate-ABS) is one of the most widely used industrial thermoplastics. PC-ABS offers the most desirable properties of both materials — the superior strength and heat resistance of polycarbonate and the flexibility of ABS.

PC-ABS blends are commonly used in automotive, electronics and telecommunications applications. Additionally, a PC-ABS part manufactured on a Fortus® 3D Production System is 5-60% stronger than a part made on previous FDM systems. PC-ABS gives you conceptual modeling, functional prototyping, manufacturing tools and end-use-parts.

Color options: Black

MECHANICAL PROPERTIES	TEST METHOD	ENGLISH	METRIC
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	5,900 psi	41 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	278,000 psi	1,900 MPa
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	6%	6%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	9,800 psi	68 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	280,000 psi	1,900 MPa
IZOD Impact, notched (Method A, 23°C)	ASTM D256	3.7 ft-lb/in	196 J/m
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	9 ft-lb/in	481 J/m



THERMAL PROPERTIES	TEST METHOD	ENGLISH	METRIC
Heat Deflection (HDT) @ 66 psi	ASTM D648	230°F	110°C
Heat Deflection (HDT) @ 264 psi	ASTM D648	205°F	96°C
Vicat Softening Temperature	ASTM D1525	234°F	112°C
Glass Transition Temperature (Tg)	DMA (SSYS)	257°F	125°C
Coefficient of Thermal Expansion	-----	4.10 E -05 in/in/°F	-----
Melt Point	-----	Not Applicable	Not Applicable

ELECTRICAL PROPERTIES	TEST METHOD	VALUE RANGE
Volume Resistivity	ASTM D257	2.0x10e14 - 4.4x10e13 ohm-cm
Dielectric Constant	ASTM D150-98	2.9 - 2.7
Dissipation Factor	ASTM D150-98	.0035 - .0032
Dielectric Strength	ASTM D149-09, Method A	340 - 90 V/mil

OTHER	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1.10
Density	ASTM D792	0.0397 lb/in ³
Flame Classification	UL94	HB
Rockwell Hardness	ASTMD785	R110
UL File Number	-----	E345258