

# ABS-M30

## ABS With Improved Strength

ABS-M30™ is up to 25 to 70 percent stronger than standard ABS and is an ideal material for conceptual modeling, functional prototyping, manufacturing tools and end-use-parts. ABS-M30 has greater tensile, impact and flexural strength than standard ABS. Layer bonding is significantly stronger than that of standard ABS, for a more durable part. This results in more realistic functional tests and higher quality parts for end use. ABS-M30 parts are stronger, smoother and have better feature detail. ABS-M30 runs the Xtend 500 Fortus Plus option, which enables more than 400 hours of unattended build time.

MECHANICAL PROPERTIES <sup>1</sup>	TEST METHOD	ENGLISH		METRIC	
		XZ AXIS	ZX AXIS	XZ AXIS	ZX AXIS
Tensile Strength, Yield (Type 1, 0.125", 0.2"/min)	ASTM D638	4,550 psi	3,750 psi	31 MPa	26 MPa
Tensile Strength, Ultimate (Type 1, 0.125", 0.2"/min)	ASTM D638	4,650 psi	4,050 psi	32 MPa	28 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	320,000 psi	310,000 psi	2,230 MPa	2,180 MPa
Tensile Elongation at Break (Type 1, 0.125", 0.2"/min)	ASTM D638	7%	2%	7%	2%
Tensile Elongation at Yield (Type 1, 0.125", 0.2"/min)	ASTM D638	2%	1%	2%	1%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	8,700 psi	7,000 psi	60 MPa	48 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	300,000 psi	250,000 psi	2,060 MPa	1,760 MPa
Flexural Strain at Break (Method 1, 0.05"/min)	ASTM D790	4%	3.5%	4%	3.5%

MECHANICAL PROPERTIES	TEST METHOD	ENGLISH	METRIC
		XZ AXIS	XZ AXIS
IZOD Impact, notched (Method A, 23°C)	ASTM D256	2.4 ft-lb/in	128 J/m
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	5.6 ft-lb/in	300 J/m

THERMAL PROPERTIES <sup>2</sup>	TEST METHOD	ENGLISH	METRIC
Heat Deflection (HDT) @ 66 psi, 0.125" unannealed	ASTM D648	204°F	96°C
Heat Deflection (HDT) @ 264 psi, 0.125" unannealed	ASTM D648	180°F	82°C
Vicat Softening Temperature (Rate B/50)	ASTM D1525	210°F	99°C
Glass Transition (Tg)	DMA (SSYS)	226°F	108°C
Coefficient of Thermal Expansion (flow)	ASTM E831	4.90x10 <sup>-05</sup> in/in/°F	8.82x10 <sup>-05</sup> mm/mm/°C
Coefficient of Thermal Expansion (xflow)	ASTM E831	4.70x10 <sup>-05</sup> in/in/°F	8.46x10 <sup>-05</sup> mm/mm/°C
Melting Point	-----	Not Applicable <sup>2</sup>	Not Applicable <sup>2</sup>

ELECTRICAL PROPERTIES <sup>3</sup>	TEST METHOD	ORIENTATION	VALUE RANGE
Volume Resistivity	ASTM D257	XZ Axis	4.0x10 <sup>15</sup> - 3.3x10 <sup>16</sup> ohm-cm
Dielectric Constant	ASTM D150-98	XZ Axis	2.6 - 2.86
Dissipation Factor	ASTM D150-98	XZ Axis	0.0048 - 0.0054
Dielectric Strength	ASTM D149-09, Method A	XY Axis	100 V/mil
Dielectric Strength	ASTM D149-09, Method A	XZ Axis	360 V/mil

OTHER <sup>1</sup>	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1.04
Flame Classification	UL94	HB (0.09", 2.50 mm)
Rockwell Hardness	ASTM D785	109.5
UL File Number	-----	E345258