BAKER INDUSTRIES

MATERIAL DATA SHEET

ABS-M30

- Ivory
- White
- Black
- Dark Gray
- Red
- Blue

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 built time.

Mechanical Properties	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	
		XZ Axis	ZX Axis
IZOD Impact, notched (Method A, 23 °C)	ASTM D256	2.4 ft-lb/n	128 J/m
IZOD Impact, un-notched (Method A, 23 °C)	ASTM D256	5.6 ft-lb/n	300 J/m

Thermal Properties	Test Method	English	Metric
ASTM D648	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 Temperature (Tg)	DMA (SSYS)	226 °F	108 °C
Coefficient of Thermal Expansion (flow)	ASTM E831	4.90 x 10^{-05} in/in/°F	8.82 x 10^{-05} mm/mm/°C
Coefficient of Thermal Expansion (xflow)	ASTM E831	4.70 x 10^{-05} in/in/°F	8.46 x 10^{-05} mm/mm/°C
Melting Point	- - - - - - - - -	Not Applicable	Not Applicable

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Electrical Properties	Test Method	Orientation	Value Range
Volume Resistivity	ASTM D257	XZ Axis	$4.0x10^{15}$ - $3.3x10^{16}$ 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	XZ Axis	100 V/mil
Dielectric Strength	ASTM D149-09, Method A	XZ Axis	360 V/mil

Other	Test Method	Value
Specific Gravity	ASTM D792	1.04
Flame Classification	UL94	HB (0.09", 2.50mm)
Rockwell Hardness	ASTM D785	109.5
UL File Number	- - - - - - - - -	E345258