

# BAKER INDUSTRIES

## MATERIAL DATA SHEET

# ASA



	Black		Dark Blue
	Dark Gray		Green
	Light Gray		Yellow
	White		Orange
	Ivory		Red

Now you can build consistently high-quality parts, with exceptional UV stability and the best aesthetics of any FDM<sup>®</sup> thermoplastic. ASA is poised to become the most popular all-purpose prototyping material for users of Fortus 360mc<sup>™</sup>, 380mc<sup>™</sup>, 400 mc<sup>™</sup>, 450mc<sup>™</sup> and 900mc<sup>™</sup> 3D Production Systems. Matching or exceeding the mechanical properties of ABS, ASA may be your new favorite general prototyping material. Its UV-resistance makes it especially suited in end-use parts for outdoor commercial and infrastructure use. And its wide selection of colors and matte finish makes it ideal for attractive prototypes in consumer sporting goods, tools and automotive components and accessories.

### MECHANICAL PROPERTIES

TEST METHOD	STANDARD	ENGLISH		METRIC	
		XZ AXIS	ZX AXIS	XZ AXIS	ZX AXIS
Tensile Strength, Yield [Type 1, 0.125", 0.2"/min]	ASTM D638	4,200 psi	3,850 psi	29 MPa	27 MPa
Tensile Strength, Ultimate [Type 1, 0.125", 0.2"/min]	ASTM D638	4,750 psi	4,300 psi	33 MPa	30 MPa
Tensile Modulus [Type 1, 0.125", 0.2"/min]	ASTM D638	290,000 psi	280,000 psi	2,010 MPa	1,950 MPa
Elongation at Break [Type 1, 0.125", 0.2"/min]	ASTM D638	9%	3%	9%	3%
Elongation at Yield [Type 1, 0.125", 0.2"/min]	ASTM D638	2%	2%	2%	2%
Flexural Strength [Method 1, 0.05"/min]	ASTM D790	8,700 psi	6,900 psi	60 MPa	48 MPa
Flexural Modulus [Method 1, 0.05"/min]	ASTM D790	270,000 psi	240,000 psi	1,870 MPa	1,630 MPa
Flexural Strain at Break [Method 1, 0.05"/min]	ASTM D790	No Break	4%	No Break	4%

THERMAL PROPERTIES	TEST METHOD	ENGLISH	METRIC
Heat Deflection (HDT) @ 66 psi	ASTM D648	208 °F	98 °C
Heat Deflection (HDT) @ 264 psi	ASTM D648	196 °F	91 °C
Vicat Softening Temperature (Rate B/50)	ASTM D1525	217 °F	103 °C
Glass Transition Temperature (Tg)	DMA (SSYS)	226 °F	108 °C
Coefficient of Thermal Expansion (flow)	ASTM E831	4.90E-06 in/in/°F	8.79E-06 mm/mm/°C
Coefficient of Thermal Expansion (xflow)	ASTM E831	4.60E-06 in/in/°F	8.46E-06 mm/mm/°C





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ELECTRICAL PROPERTIES	TEST METHOD	ORIENTATION	VALUE RANGE
Volume Resistivity	ASTM D257	XZ	1.0E14 - 1.0E15 ohm-cm
Dielectric Constant	ASTM D150-98	XZ	2.97 - 3.04
Dissipation Factor	ASTM D150-98	XZ	0.009
Dielectric Strength	ASTM D149-09, Method A	XZ	329 V/mil
Dielectric Strength	ASTM D149-09, Method A	XZ	414 V/mil

OTHER	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1.05
Flame Classification	UL94	HB
Rockwell Hardness	ASTM D785	82
UL File Number	-----	345258

