

SAF™ PA12

MATERIAL DATA SHEET

SAF™ PA12 parts are perfect for applications where rigidity is an important requirement. At volume, SAF™ PA12 allows for fine feature resolution, strength and accuracy build after build, and is most suitable for higher tolerance requirements such as for assemblies and connector applications. Tight thermal control on the H350 leads to consistent parts and high nesting densities, and thus more parts per build.

Color options:

Natural Grey, Black, or custom dyed

Quick Facts:

- Lower cost per part
- More parts per build
- Great for assemblies and connector applications



PROPERTY	MEAN	UNIT	STANDARD*
Tensile Strength (XZ,YX)	47 (6817)	MPa (psi)	ASTM D638-14
Tensile Strength (ZX)	46 (6672)	MPa (psi)	ASTM D638-14
Elongation at Break (XZ,YX)	11	%	ASTM D638-14
Elongation at Break (ZX)	5	%	ASTM D638-14
0.2% Offset Yield Strength (XZ,YX)	33.5 (4859)	MPa (psi)	ASTM D638-14
0.2% Offset Yield Strength (ZX)	32.2 (4670)	MPa (psi)	ASTM D638-14
Tensile Modulus (XZ,YX)	1750 (254)	MPa (ksi)	ASTM D638-14
Tensile Modulus (ZX)	1700 (247)	MPa (ksi)	ASTM D638-14
Flexural Strength (XZ,YX)	40 (5801)	MPa (psi)	ASTM D790-17
Flexural Strength (ZX)	41 (5946)	MPa (psi)	ASTM D790-17
Flexural Modulus (XZ,YX)	900 (131)	MPa (ksi)	ASTM D790-17
Flexural Modulus (ZX)	925 (134)	MPa (ksi)	ASTM D790-17
Notched Impact Strength (XZ,YX)	4.17 (1.98)	kJ/m2 (Ft.lbf/in2)	ASTM D256-10
Notched Impact Strength (ZX)	3.36 (1.60)	kJ/m2 (Ft.lbf/in2)	ASTM D256-10

* Testing based on stated ASTM standards with the following exceptions: tests performed at ambient laboratory conditions (approximately 21 °C and ambient humidity). Samples not conditioned as per stated methods prior to testing

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GENERAL	MEAN	UNIT	STANDARD
Part Specific Gravity	0.98		ASTM D792-13
Virgin Particle Size D50	56 (2.2)	μm (thou)	
Virgin Powder Melting Point	185 (365)	°C (°F)	

THERMAL	MEAN	UNIT	STANDARD
Heat Deflection Temperature (0.45MPa/65psi)	173 (343)	°C (°F)	ASTM D648
Heat Deflection Temperature (1.82MPa/264psi)	77 (171)	°C (°F)	ASTM D648
Coefficient of Thermal Expansion	160 (0.089)	μm/°C.m (thou/in.°F)	ASTM E831
Specific Heat Capacity (20°C/68°F)	1.69 (0.4)	J/g.°C (BTU/lb.°F)	ASTM E1952
Thermal Conductivity (23°C/73°F)	0.192 (1.34)	W/m K (BTU (th) inch/hr.ft.°F)	ASTM E1952

ELECTRICAL	MEAN	UNIT	STANDARD
Surface resistivity	5.53 x10 ¹³	Ohm	ASTM D257
Volume resistivity	4.19 x10 ¹⁴	Ohm-cm	ASTM D257

FLAMMABILITY	MEAN	UNIT	STANDARD
UL94 HB	Pass	Not Applicable	UL94 (April 2022)

System Availability:

Stratasys H350™

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Materials and data based on Stratasys FDM material product testing reports.