

# SAF™ PA12 Datasheet

SAF™ PA12 is available for use with the H350, a material offering numerous benefits, most notably in delivering a high level of accuracy. Tight thermal control on the H350 leads to consistent parts and high nesting densities, and thus more parts per build. The following data highlight the capability of SAF™ PA12.

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/m <sup>2</sup> (Ft.lbf/in <sup>2</sup> )	ASTM D256-10
Notched Impact Strength (ZX)	3.36 (1.60)	kJ/m <sup>2</sup> (Ft.lbf/in <sup>2</sup> )	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

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 <sup>13</sup>	Ohm	ASTM D257
Volume resistivity	4.19 x10 <sup>14</sup>	Ohm-cm	ASTM D257
Flammability	Mean	Unit	Standard
UL94 HB	Pass	Not Applicable	UL94 (April 2022)

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