

MATERIALS

TECHNICAL SPECIFICATION

PA12

GENERAL PROPERTIES	MEASUREMENT	VALUE
	NATURAL COLOUR	GREY, WHITE
	MAX PRINTABLE SIZE	380 x 284 x 380 mm
	TOLERANCE	± 0.3mm BELOW 100 mm ± 0.3% ABOVE 100 mm
	DENSITY	1.01 g/cm ³

MECHANICAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	TENSILE STRENGTH	54 MPa	52 MPa
	TENSILE MODULUS	2000 MPa	2000 MPa
	ELONGATION AT YIELD	10%	9%
	ELONGATION AT BREAK	17%	10%
IMPACT STRENGTH	4.2 kJ/m ²	4.2 kJ/m ²	

THERMAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	HEAT DEFLECTION TEMPERATURE (@ 0.45 MPa)	175°C	175°C
HEAT DEFLECTION TEMPERATURE (@ 1.82 MPa)	95°C	95°C	

PA12 GB

GENERAL PROPERTIES	MEASUREMENT	VALUE
	NATURAL COLOUR	GREY
	MAX PRINTABLE SIZE	330 x 234 x 330 mm
	TOLERANCE	± 0.40mm BELOW 100mm ± 0.4% ABOVE 100mm
DENSITY	1.3 g/cm ³	

MECHANICAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	TENSILE STRENGTH	31 MPa	30 MPa
	TENSILE MODULUS	2900 MPa	3000 MPa
	ELONGATION AT YIELD	8%	4%
	ELONGATION AT BREAK	9%	5%
IMPACT STRENGTH	3 kJ/m ²	3 kJ/m ²	

THERMAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	HEAT DEFLECTION TEMPERATURE (@ 0.45 MPa)	170°C	172°C
HEAT DEFLECTION TEMPERATURE (@ 1.82 MPa)	113°C	118°C	

PP

GENERAL PROPERTIES	MEASUREMENT	VALUE
	NATURAL COLOUR	GREY
	MAX PRINTABLE SIZE	250 x 250 x 250 mm
	TOLERANCE	± 0.60mm BELOW 100mm ± 0.6% ABOVE 100mm
	DENSITY	0.87 g/cm ³

MECHANICAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	TENSILE STRENGTH	29 MPa	29 MPa
	TENSILE MODULUS	1600 MPa	1600 MPa
	ELONGATION AT YIELD	9.5%	9.5%
	ELONGATION AT BREAK	20%	14%
IMPACT STRENGTH	3.5 kJ/m ²	3 kJ/m ²	

THERMAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	HEAT DEFLECTION TEMPERATURE (@ 0.45 MPa)	100°C	100°C
HEAT DEFLECTION TEMPERATURE (@ 1.82 MPa)	60°C	60°C	

BASF ULTRASINT TPU

GENERAL PROPERTIES	MEASUREMENT	VALUE
	NATURAL COLOUR	GREY
	MAX PRINTABLE SIZE	380 x 284 x 380 mm
	TOLERANCE	± 0.35mm BELOW 30mm ± 0.40mm ABOVE 30mm
	DENSITY	0.5 g/cm ³

MECHANICAL PROPERTIES	MEASUREMENT	VALUE	
		XY	Z
	TENSILE STRENGTH	9 MPa	7 MPa
	TENSILE MODULUS	85 MPa	85 MPa
	ELONGATION AT BREAK	280%	150%
	HARDNESS (Shore A)	88 - 90	88 - 90
	TEAR STRENGTH	109 N/mm	53 N/mm
	REBOUND	63%	63%
	COMPRESSION SET	23%	24%
	ABRASION RESISTANCE	96 /mm ³	100 /mm ³
VICAT/A (10N)/C	97	98	

Source: <https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA7-7090ENW>



To receive baseline costs for rapid prototyping, upload your design files using the online portal at www.bowman3D.com

To discuss production volume 3D printing, speak to our specialist team:

+44 (0) 1235 462500 | 3Dsales@bowman.co.uk
www.bowman3D.com

A division of Bowman International Ltd

Bowman International Ltd reserve the right to change specifications without prior notice E & OE