

MATERIAL DATA SHEET: Aluminium

Material	Composition
Aluminium	Aluminium bal Silicon 9-11 % Magnesium 0.25-0.45 %

Material Properties		Test Method
Tensile Strength		ASTM E8
Ultimate Strength	442 ±6 Mpa (X Y) 417 ±27 Mpa (Z)	
Yield Strength (0.2% offset)	264 ±2 Mpa (X Y) 206 ±6 Mpa (Z)	
Young's modulus	185 Mpa (X Y) 180 Mpa (Z)	
Elongation	9 ± 1 % (X Y) 6 ± 2 % (Z)	
Hardness	66 HRB	ASTM E18
Density	2.68 g/cm ³	
Thermal conductivity	130 W/mK to 190 W/mK	
Melting Range	570 °C to 590 °C	
Coefficient of thermal expansion	20 µm/mK to 21 µm/mK	

Design Guidelines			
Maximum printable size X x Y x Z	250x250x200 mm	Minimum wall tickness	1 mm
Construction support required	Yes	Layer tickness	25 µm
Minimum size details	0.4 mm	Accuracy	± 0.2 mm ± 2%
Interlocking parts	No	Minimum clearence	0.6 mm
Enclosed parts	No		