

Metal Additive Manufacturing Materials

Technical Data

Parameter	AlSi10Mg (DMLS)	AlSi10Mg (DMLS)	AlSi10Mg (DMLS)	Titanium Ti64 (DMLS)	Scalmalloy® (DMLS)
Type of material	Aluminium alloy	Aluminium alloy	Aluminium alloy	Titanium alloy	High Performance Aluminium / Scandium Alloy
Layer thickness [µm]	30	60	90	60	50
Relative density [%]	>98.5	>98.0	>98.5	>99.2	>99.5
Absolute density [g/cm³]	2.67	2.67	2.67	4.43	2.67
Ultimate tensile strength horizontal [MPa]	275 ±20	250 ±25	260 ±20	1140 ±20	525 ±10
Ultimate tensile strength vertical [MPa]	280 ±20	250 ±25	260 ±20	1140 ±20	520 ±10
Yield strength horizontal [MPa]	175 ±10	163 ±20	165 ±20	1085 ±30	510 ±15
Yield strength vertical [MPa]	170 ±10	163 ±20	165 ±20	1060 ±40	480 ±15
Elongation at break horizontal [%]	Min 9	Min 3	Min 2.8	Min 6	13 ±3
Elongation at break vertical [%]	Min 8	Min 3	Min 2.8	Min 9	13 ±3
Youngs modulus horizontal [GPa]	67 ±8	55 ±8	60 ±10	116 ±6	70 ±5
Youngs modulus vertical [GPa]	60 ±8	55 ±8	60 ±10	118 ±7	65 ±5
Hardness [HV]	100	100	100	400	-
Build Size	420 x 420 x 400 mm3	420 x 420 x 400 mm3	420 x 420 x 400 mm3	420 x 420 x 400 mm3	420 x 420 x 400 mm3