

NanoAl

Automotive
Aerospace
Industrial

Addalloy[®] 5T



Addalloy 5T is an Al-Mg based alloy designed specifically for additive manufacturing processes. Addalloy 5T powder is specially formulated so that it can be directly aged after fabrication for precipitation strengthening. The combination of high strength and ductility make this alloy suitable for structural applications.

	Value [unit]	
Physical Properties ^[1]	As Printed	Heat Treated ^[3]
Absolute Density	2.67 g/cm ³ (0.0964 lbs/in ³)	2.67 g/cm ³ (0.0964 lbs/in ³)
Mechanical Properties ^[2]		
Tensile Yield Strength (RT)	260 MPa (37.7 ksi)	410 MPa (59.5 ksi)
Ultimate Tensile Strength (RT)	320 MPa (46.4 ksi)	435 MPa (63.1 ksi)
Elongation at break	20%	9% ^[4]
Vickers Hardness (HV0.1)	88 HV	130 HV
Electrical Properties		
Electrical Conductivity	15.2 MS/m	17.3 MS/m
Thermal Properties		
Thermal Conductivity ^[5]	109 W/m·K	121 W/m·K

[1]Material has been fabricated using EOS M290, Concept Laser M2, SLM 280, and Renishaw AM250/400.

[2]Build Rates up to 6.5 mm³/second (23.4 cm³/hr) per single 400 watt laser.

[3]Direct artificial aging post-fabrication, no solution treatment (i.e. T5 temper).

[4]Built and tested in Z-Direction with 50µm layers

[5]Calculated from electrical conductivity.

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