Datasheet (*SLM / DMLS*)

Aluminium AlSi9Cu3

Features.

Our AlSi9Cu3 material gives you a 3D printable Aluminium alloy with high thermal conductivity, good strength and good chemical resistance. These properties are achieved through it's particular chemical composition.

The high copper content gives the alloy good high-temperature strength, which makes AlSi9Cu3 a good choice for engine and gear manufacturing. The reduced Si content in this alloyalso improves the machining properties while the combination of Si and Cu ensure the high mechanical strength. The low levels of Mg and Cu result in an increase in strength and enable the curing of this alloy.

Applications.

Typical applications include complex machine and engine parts, e. g. manufacturing of crankshafts and transmission housings, engine blocks, engine parts and cylinders and cylinder heads.

Chemical Composition:

Al	Si	Si	Cu	Fe
Base	9 - 11%	7.5 - 9.5%	2 - 3.5%	≤ 0.55%

Mechanical Properties:

Material Property	Unit	As Built	Testing @ 250 °C
Tensile Strength	MPa	380 ± 40	160 ± 10
Yield Strength (Rp 0.2%)	MPa	290 ± 40	130 ± 10
Elongation at Break	%	2.5 ± 1	28 ± 5
E-Modulus	GPa	62 ± 5	62 ± 5
Density	G/cm3	Ca. 2.7	
Thermal Conductivity	% ICS	110-120	

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