

Scalmalloy® AlMgSc

A lightweight aluminium alloy designed for aerospace.



Features:

Scalmalloy®RP (AlMgSc) is a lightweight aluminum alloy developed in the aerospace industry. Through the addition of magnesium, scandium and zirconium, this alloy has significantly improved strength properties compared to conventional casting alloys.

Scalmalloy alloy is very well suited to the following applications with it's very high strength and low density.

- Very high strength Aluminium.
- Low density
- Precipitation hardening option.
- Double the strength of our default AlSi10Mg aluminium.
- Excellent Weldability and Corrosion resistance.

Applications:

- Motorsport.
- Automotive applications.
- High performance space and aerospace applications.
- Special mechanical engineering applications.

Composition and Mechanical Characteristics:

	Mg	Sc	Zr	Mn	Si	Fe	Zn	Cu	Ti	V	O
Min.	4.00	0.60	0.20	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	4.90	0.80	0.50	0.80	0.40	0.40	0.25	0.10	0.15	0.05	0.05

General Properties	Value (As built)	Value (Heat Treated)	Unit
Part Density	ca. 2.70	ca. 2.70	g/cm ³
Hardness	ca. 102 ± 5	ca. 139	HBW
Yield point (Rp0,2%)	310 ± 10	465 ± 10	MPa
Tensile Strength Rm	365 ± 15	480 ± 15	MPa
Elongation at break A	15 ± 4	9 ± 3	%
E-modulus	70 ± 5	70 ± 5	GPa
Build Volume	250 x 250 x 300	250 x 250 x 300	L x W x H mm

This data sheet contains approximate values. These values are influenced by part's geometry, additives, and environmental influences. They were developed based on current experiences and knowledge. Therefore, the above mentioned properties cannot be claimed legally binding nor can a definite purpose be derived.

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