



Scalmalloy® AlMgSc

Scalmalloy® (AlMgSc) is an aluminum lightweight alloy specifically designed for aerospace. The addition of magnesium, scandium and zirconium gives Scalmalloy® significantly improved strength compared to conventional casting alloys.

With high strength and low density Scalmalloy® is particularly suited to the following applications:

- Motorsport
- Automotive technology
- High Performance applications for aerospace industry e.g., aircraft construction
- Special engineering

The strength v density of this material is comparable with titanium while a high toughness is particularly advantageous for safety-critical applications.

Precipitation hardening with a supersaturated solution of Al₃Sc(+Zr)-phase, gives the potential for considerably higher strength. Compared to our laser melted and T6-heat-treated components made from AlSi10Mg the yield point is almost double.

Scalmalloy® can be welded and gives your parts exceptionally high corrosion resistance.

Chemical Composition, additional to base Al:

	Mg	Sc	Zr	Mn	Si	Fe	Zn	Cu	Ti	V	O
Min%	4	0.6	0.2	0.3	0	0	0	0	0	0	0
Max	4.9	0.8	0.5	0.8	0.4	0.4	0.25	0.1	0.15	0.05	0.05

Mechanical Properties:

Material Property	Unit	Heat Treated
Tensile Strength	MPa	495 ± 5
Yield Point (Rp 0.2%)	MPa	469 ± 10
Elongation at Break A	%	13 ± 3
E-Modulus	GPa	70 ± 5
Hardness	HBW	Ca. 139
Density	G/cm3	Ca. 2.70

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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.