Aluminum alloys

Category:

High strength
High modulus
Good wear resistance

Aluminum-Silicon alloy Al-SF25

Aluminum alloy Al-SF25 is an Aluminum alloy processed via Spray forming. It shows high strength up to high temperatures. Good fatigue strength and excellent tribological behaviour. The modulus is significantly higher than for conventional Aluminum alloys. Excellent machining behaviour is another feature of this alloy.

General properties

- High strength
- Higher modulus than standard alloys
- Same density than standard alloys
- Excellent machining behavior
- High fatigue at elevated temperatures

Chemical Composition: AlSi17Fe5Cu4Mg

Comparison with Standard alloys A4032, Al-Si12Mg

Advantages: - 23% higher stiffness, A4032
- 20% higher fatigue

Disadvantages: - Lower ductility

Mechanical properties, Physical data

Density:	2.81 g/cm³
CTE:	17 x 10^-6
Tensile strength (20°C):	530 MPa
Yield strength (20°C):	460 MPa
Fatigue, R=-1, 200°C: (Rotating Bending)	177 MPa
Elastic Modulus:	98 GPa
Elongation:	1.2 %
Hardness (HV30):	210
Thermal conductivity:	120 W/mK

Applications

- Pistons
- Oil pump gears
- Structural parts
- Valve retainers
- Connecting rods
- Hydraulic valve blocs

Delivery form

- Bars
- Billets up to 120 mm dia.
- Plates
- Extrusions

AMT Advanced Materials Technology
Street: Huegelstrasse 9
Zip, City: 64404 Bickenbach
Germany
Tel.: +49-6257-505-1790
Fax.: +49-6257-505-1792
Mail: DB-AMT@web.de