Aluminum alloys

Category:

high strength, high temperature

Aluminum-alloy Al-NYC-386

Aluminum alloy Al-NYC-386 is a high strength Aluminum alloy processed via spray forming. Due to the high Yttrium content it has excellent properties at elevated temperatures. Al-NYC-386 shows unique fatigue performance at high temperatures.

General properties

- High strength
- Excellent temperature stability
- High fatigue strength

Comparison with Standard alloys A7075, A4032

Advantages: - Higher strength
- High temp. prop.

Disadvantages: - Expensive

Chemical Composition: Al-Y-Ni-Co

Mechanical properties

	UTS	YS	Elong.	Modulus
Al-NYC-386	MPa	MPa	%	GPa
Rt	642	593	1,8	94
100°C	650	605	-	-
200°	432	410	-	-
300°	312	303	-	-

Fatigue	MPa
Rt, R=-1	225
120°C, R=0.1	340
300°C, R=-1	182

Note: Al-NYC-386 is the Aluminum alloy with the highest fatigue performance at 300°C we have measured until yet.

Physical data

Density: 3.32 g/cm³
CTE: 19x10^-6
Thermal conductivity: 120 W/mK

Applications

- Compressor blades
- Structural parts
- Pistons
- Inlet valves

Delivery form

- Billets, Plates, Bars, Extrusions

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