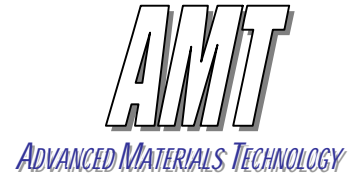


# Aluminum alloys



## Category:

high strength, high temperature

## Aluminum-alloy AI-NYC-386

Aluminum alloy AI-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. AI-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
<b>AI-NYC-386</b>	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:** AI-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/cm<sup>3</sup>  
CTE: 19x10<sup>-6</sup>  
Thermal conductivity: 120 W/mK

### Applications

- Compressor blades
- Structural parts
- Pistons
- Inlet valves

### Delivery form

- Billets, Plates, Bars, Extrusions