NASA 398
ALUMINUM ALLOY

Exclusive To
Twin City Fan Companies, Ltd.

DEVELOPMENT HISTORY

Developed by NASA under a Public and Private Research Grant

Three alloys developed:
- NASA 398
- NASA 388
- NASA 358

Unique material properties between 500°F to 752°F (260°C to 400°C)

Initial applications were engine components

OVERVIEW

The NASA Alloys have resulted in significant improvements in the performance of aluminum at temperatures between 302°F to 752°F (150°C and 400°C)

The higher strength capabilities allow fans to be run at higher speed during emergency operation at design temperatures of 482°F, 572°F and 752°F (250°C, 300°C and 400°C)

The performance increases will be available in both jet fans and central tunnel fans

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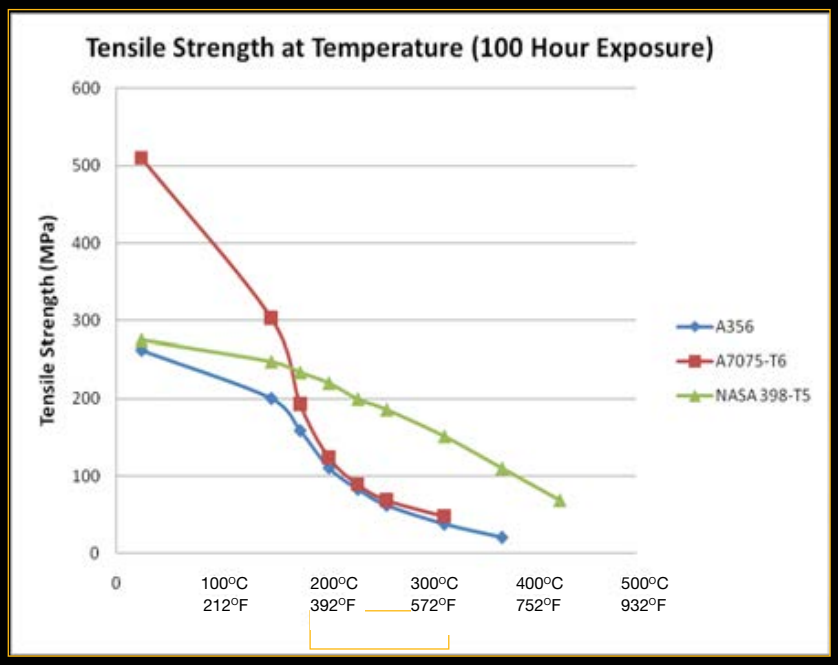
High Temperature Materials Extend Capabilities of Smoke Management Fans

Characteristics of NASA 398

- Similar to 300 Series Aluminums at Ambient Temp
- Retains 78% at 482°F (250°C)
- At 752°F (400°C) NASA 398 has higher tensile strength than A356, LN6, RR 50, A7075 have at 482°F (250°C)



Extended Range of NASA 398

- 752°F (400°C) – 2 hr: Typically fans can be operated at limiting speeds equivalent to those for fans with traditional alloys operating at 482°F (250°C)

Rotational Speed (RPM)	Fan Diameter (mm)									
	560	630	710	800	900	1000	1120	1250	1400	1600
3600										
1800										
1200										

Range with traditional high temperature aluminum

Extended Range with NASA 398 Alloy