



High Strength Alloy

Product Description

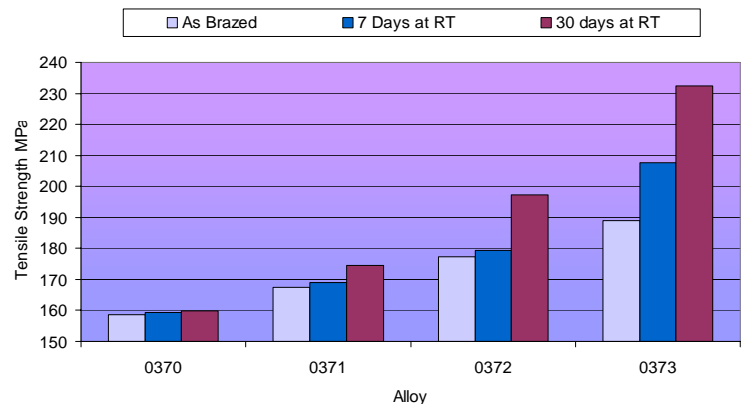
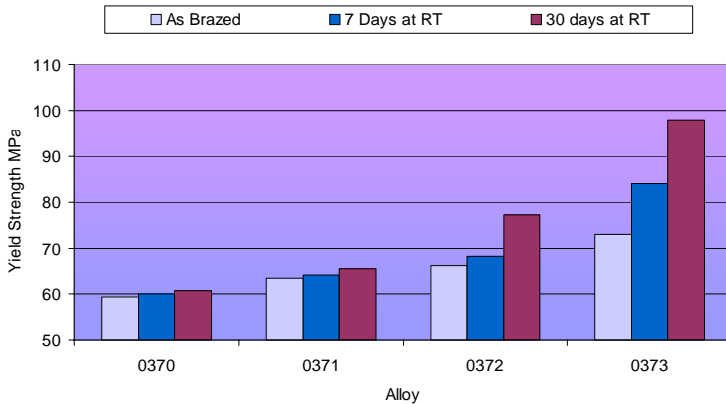
Alcoa has developed a family of high-strength 037x core alloys for brazing applications. These alloys display an excellent combination of brazeability, formability, post-brazed mechanical properties, and resistance to corrosion. The Alcoa 037x alloys exploit increased volume fraction of $Al_{12}(Fe,Mn)_3Si$ dispersoids to achieve the higher post-brazed mechanical properties, and are age-hardenable at the greater magnesium concentrations (0372 and 0373). The entire Alcoa 037x alloy family incorporates Alcoa's patented elevated titanium concentrations for enhanced resistance to corrosion.

Product Chemistries

Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti*
0370	0.6 – 0.84	0.4 – 0.6	0.4 – 0.64	1.1 – 1.4	0.05 max	0.05 max	0.10 – 0.20
0371	0.6 – 0.84	0.4 – 0.6	0.4 – 0.64	1.1 – 1.4	0.1 – 0.2	0.05 max	0.10 – 0.20
0372	0.6 – 0.84	0.4 – 0.6	0.4 – 0.64	1.1 – 1.4	0.2 – 0.3	0.05 max	0.10 – 0.20
0373	0.6 – 0.84	0.4 – 0.6	0.4 – 0.64	1.1 – 1.4	0.3 – 0.4	0.05 max	0.10 – 0.20

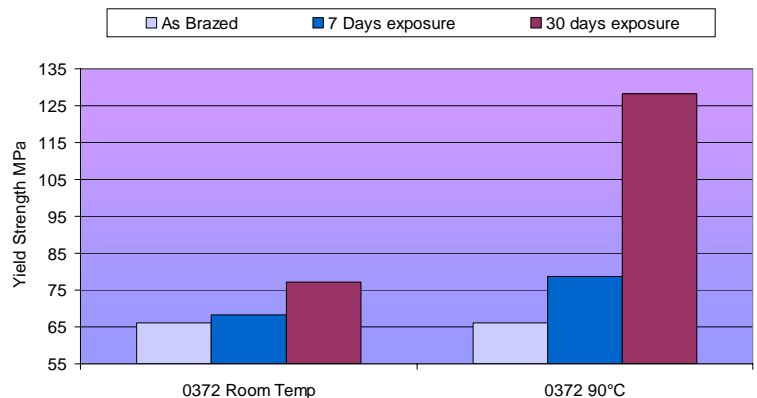
*- Long life alloys (high resistance to perforation by corrosion). Alcoa has a patented approach to corrosion resistant brazing alloys. (US 4,649,087 and US 4,828,794)

Mechanical Properties



Additions of silicon and copper endow the Alcoa 037x alloy family with a significant post-brazed mechanical property advantage, compared to conventional core alloys.

Through the addition of magnesium, members of the Alcoa 037x alloy family develop age-hardenable characteristics. Depending upon the service temperature and time of exposure, the post-brazed mechanical properties of alloys 0372 and 0373 will increase significantly. The chart at right illustrates the age-hardenability of alloy 0372.



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