High Strength Alloy

PRODUCT DESCRIPTION

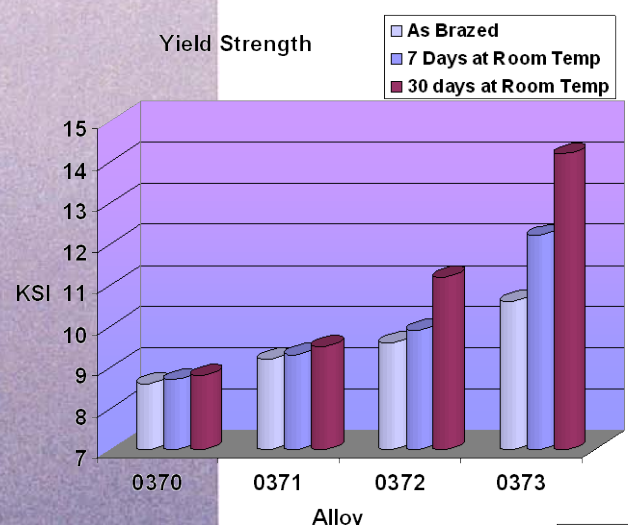
Alcoa has developed a set of proprietary high strength brazing sheet core alloys. These alloys display an excellent combination of strength, brazability, formability, and corrosion resistance. The Alcoa 037X family of alloys exploit an increased volume fraction of $Al_{12}(Fe,Mn)_3Si$ dispersoids to achieve the higher post-braze mechanical properties. Versions with more magnesium such as alloy 0373 can age harden for further strengthening after brazing. These alloys have deliberate titanium additions for enhanced corrosion resistance.

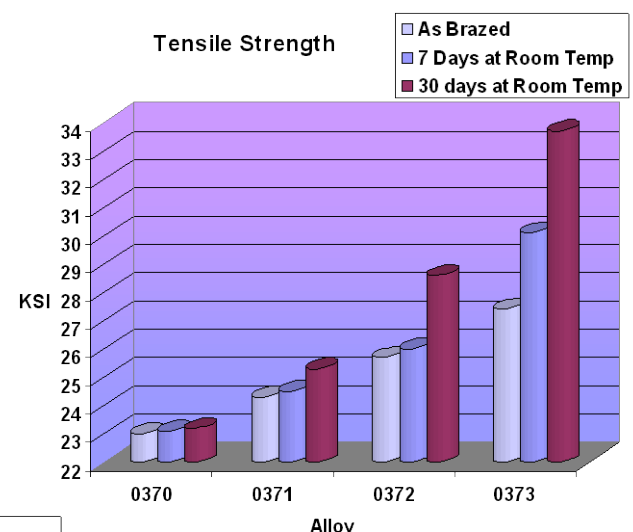
PRODUCT CHEMISTRIES

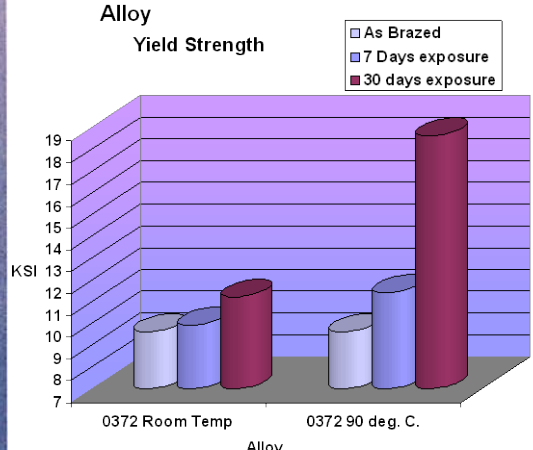
Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti*
0370	0.6 - 0.84	0.4 - 0.6	0.4 - .64	1.1 – 1.4	0.05 max	0.05 max	0.10 - 0.20
0373	0.6 - 0.84	0.4 - 0.6	0.4 - .64	1.1 – 1.4	0.3 - 0.4	0.05 max	0.10 - 0.20

PHYSICAL PROPERTIES

Controlled additions of silicon and copper give the 037X family a significant post-braze mechanical property advantage over conventional core alloys.







With the addition of magnesium, the 037X family becomes age hardenable. The alloy strengthens significantly in service, depending on time and operating temperature. See chart to the left.

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