



ALLOY 6262

Understanding Cold Finished Aluminum Alloys

Alloy 6262, a cold finished aluminum wrought product, is suggested for applications requiring a high degree of machinability along with high corrosion resistance. As one of the two free machining aluminum alloys containing lead and bismuth, alloy 6262 combines good machinability with high strength, high corrosion resistance and good anodize finishing characteristics.

The -T9 temper has been used for parts requiring significant machining such as automotive transmission valves, brake piston and air conditioning applications. Other typical applications include CATV connectors, hinge pins, camera parts, television and tripod fittings, couplings, marine fittings, decorative hardware and knobs, magneto parts, nuts, oil line fittings, roller skate parts, appliance fittings, steam iron parts, valves and valve parts.

Machining

Alloy 6262 offers good machinability when machined using single-point or multi-spindle carbide tools on screw machines. The alloy is rated "B" on the Aluminum Association machinability rating system, giving curled or easily broken chips, and is recommended for applications requiring higher productivity with good to excellent surface finish. For certain machining applications, it may

be necessary to use chip breakers or special techniques (i.e. peck drilling) to help break the chips.

The -T8 temper for alloy 6262 offers a low average residual stress among screw machine starting stock. This superior overall dimensional tolerance control allows a minimum of waste during machining.

Corrosion

Alloy 6262 is one of the most corrosion-resistant aluminum alloys. Susceptibility to stress-corrosion cracking and exfoliation is negligible. (Caution: direct contact by dissimilar metals can cause galvanic corrosion.)

Anodizing

Parts machined from 6262 alloy will easily accept all types of anodic coatings (clear, clear and dye, hard coat, etc.), thereby enhancing resistance to corrosion and wear.

The properties listed in this Alloy Data Sheet represent the best current information for this alloy. In each specific application, the user is expected to evaluate and test the alloy, temper and finishing method. Consult the Material Safety Data Sheet (MSDS) for proper safety and handling precautions when using alloy 6262.

6262 Temper Designations and Definitions

Standard Tempers	Standard Temper Definitions*
T6, T651	Solution heat-treated and then artificially aged. Applies to products that are not cold worked after solution heat-treatment, or in which the effect of cold work in flattening or straightening may not be recognized in mechanical properties. Temper -T651 applies to products stress-relieved by stretching.
T8	Solution heat-treated, cold-worked, then artificially aged. Applies to products that are cold worked to improve strength, or in which the effect of cold work in flattening and straightening is recognized in mechanical property limits.
T9	Solution heat-treated, artificially aged, and then cold-worked. Applies to products that are cold worked to improve strength.

*For further details of definitions, see Aluminum Association's [Aluminum Standards and Data](#) manual and [Temper Designations for Aluminum and Aluminum Alloy Products](#).

Alloy 6262 Chemical Analysis

Liquidus Temperature: 1204°F

Solidus Temperature: 1078°F

Density: 0.098 lb./in.³

Percent Weight	Elements											Others Each	Others Total	Aluminum
	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi				
Minimum	.40	—	.15	—	.8	.04	—	—	.40	.40	—	—	—	
Maximum	.8	.7	.40	.15	1.2	.14	.25	.15	.7	.7	.05	.15	.15	Remainder

Average Coefficient of Thermal Expansion (68° to 212°F) = 13.2×10^{-6} (inch per inch per °F)

Alloy 6262 Global Cold Finished Products Capabilities and Mechanical Property Limits

Temper	Specified Section or Wall Thickness ² (inches)	Tensile Strength (ksi)		Elongation ³	Typical Brinell Hardness (500 kg load/ 10 mm ball)	Typical Ultimate Shearing Strength (ksi)	Typical Electrical Conductivity (%IACS)
		Ultimate	Yield (0.2% offset)	Percent Min. in 2 inch or 4D ⁴			
		Min.	Min.				
Standard Tempers ¹							
T6, T651	Up thru 8.000 ⁵	42.0	35.0	10	95	30	44
T8	.750 thru 3.250	45.0	43.0	12	103	—	44
T9	.125 thru 2.000	52.0	48.0	5	120	35	44
	2.001 thru 3.250	50.0	46.0	5	120	35	44

① The mechanical property limits for standard tempers are listed in the "standards section" of the Aluminum Association's Aluminum Standards and Data manual and Tempers for Aluminum and Aluminum Alloy Products. ② The thickness of the cross section from which the tension test specimen is taken determines the applicable mechanical properties. ③ For material of such dimensions that a standard test specimen cannot be taken, or for shapes thinner than 0.062", the test for elongation is not required. ④ D = Specimen diameter. ⑤ Mechanical property minimums for bar have a maximum cross-sectional area of 50 sq. in.

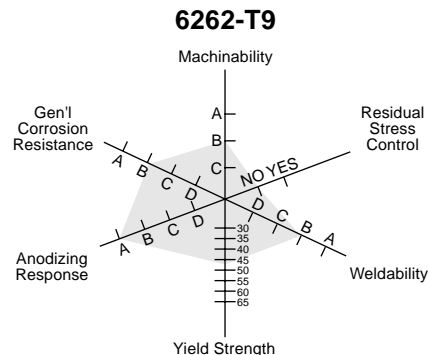
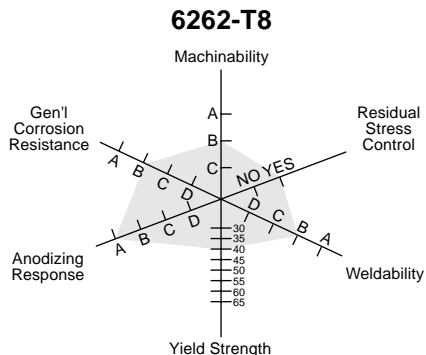
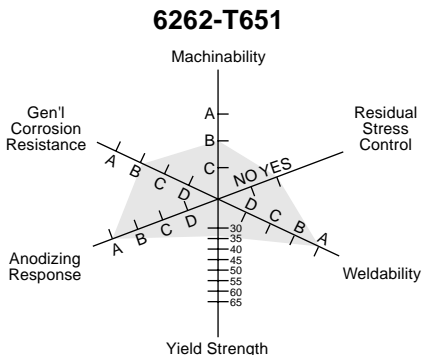
Dimensional Stability

The -T8 temper for 6262 alloy offers a low average residual stress among screw machine starting stock. This superior overall dimensional tolerance control allows a minimum of waste during machining.

Residual Stress Saw Curb Results*

Alloy	% Diameter Change
6262-T9	4.80
6262-T8	0.51

*Alcoa in-house testing.



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