

7050



## ALUMINUM ALLOY TECHNICAL SPECIFICATION SHEET

**GENERAL:** Although zinc is the major alloying element in this alloy as in alloy 7075, differences in composition limits provide a more formable alloy with only slight reductions in strength. Developed primarily for aerospace use, alloy 7050 is gaining popularity in fastener use. High strength, fair formability in the cold heading temper of H13, and a fair corrosion resistance, combine with the light weight of aluminum make this alloy a viable alternative to some of the higher strength metals.

**CHEMICAL COMPOSITION<sup>1</sup>:** Compositions in % max, unless otherwise specified.

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others		Al (min)
									Each	Total	
0.12	0.15	2.0-2.6	0.10	1.9-2.6	0.04	-	5.7-6.7	0.06	0.05	0.15	Balance

<sup>1</sup> Complying with Aluminum Association, ASTM and Federal Specifications

### MECHANICAL PROPERTIES AND CHARACTERISTICS

Although Beneke Wire Co makes every effort to provide you with accurate values in this section, when using for design purposes please consult with the Beneke technical staff or refer to any relevant standards and/or specifications,

Temper	Max Diameter <sup>5</sup> (inches)	Ultimate Tensile		Typical Shear <sup>3</sup> (ksi)	Typical % El <sup>3</sup> (in 10 <sup>''</sup> )	Resistance to Corrosion		Formability <sup>2</sup>	Machinability <sup>2</sup>
		Specification <sup>1</sup> (ksi)	Typical <sup>4</sup> (ksi)			General <sup>2</sup>	SCC <sup>2</sup>		
7050-0	.500	40.0 max	-	-	-	C	B	B	D
-H13	.500	34.0-44.0	35.2	23	-	C	B	B	C
-T7	.500	70.0 min	75.0	46	12	C	B	D	B

<sup>1</sup> Complying with Aluminum Association, ASTM and Federal Specifications

<sup>2</sup> Ratings A-E are relative ratings in decreasing order of merit

<sup>3</sup> Industry averages as published by Aluminum Association. Should not be used for design purposes

<sup>4</sup> Computed Beneke averages. Should not be used for design purposes

<sup>5</sup> Larger sizes may be available subject to inquiry

**FINISHES:** Excellent finishes can be obtained with 7050 alloy. Below is a list of applicable finishes for this alloy.

1) **#4 Finish** - A lustrous finish specifically applicable for cold heading. This oxide free surface greatly improves tool life and uniformity in metal flow while heading. Product has enhanced, shiny appearance and will anodize well.

2) **MICRO Finish** - A bright, lustrous finish applicable only to heat treated wire. This oxide free surface is particularly useful in escomatic wire or any application where close tolerances in diameter are required. Improved corrosion resistance is one of many advantages.

3) **DOX Finish** - A satiny white finish specifically used on heat treated cold heading wire and rod. This oxide free surface greatly improves uniformity in metal flow during heading, thus giving the added advantage needed when heading 7050 wire and rod.