7075

BENEKE
Specialty Aluminum Wire

ALUMINUM ALLOY TECHNICAL SPECIFICATION SHEET

GENERAL: High levels of zinc combined with copper and magnesium make this alloy one of the highest strength commercial aluminum alloys. Although formability is limited in this alloy, it is used extensively in cold heading applications as an H13 temper. Applications include aerospace rivets, bolts, and self tapping screws. Parts are normally solution heat treated and aged after forming to reach optimum properties. Corrosion resistance is only fair in alloy 7075.

CHEMICAL COMPOSITION[1]: Compositions in % max, unless otherwise specified.

									Others		
Si	**Fe**	**Cu**	**Mn**	**Mg**	**Cr**	**Ni**	**Zn**	**Ti**	**Each**	**Total**	**Al (min)**
0.40	0.50	1.2-2.0	0.30	2.1-2.9	0.18-0.28	-	5.1-6.1	0.20	0.05	0.15	Balance

[1] 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,

		Ultimate Tensile				Resistance to Corrosion			
Temper	**Max Diameter[5] (inches)**	**Specification[1] (ksi)**	**Typical[4] (ksi)**	**Typical Shear[3] (ksi)**	**Typical % El[3] (in 10")**	**General[2]**	**SCC[2]**	**Formability[2]**	**Machinability[2]**
7075-0	.500	40.0 max	29.7	20.0	17	C	B	B	D
-H12	.500	-	34.0	-	-	C	B	B	D
-H13	.500	36.0-46.0	37.5	24.0	13	C	B	C	C
-H15	.375	-	42.9	-	-	C	B	D	C
-H16	.375	-	44.5	-	-	C	B	D	C
-T6	.500	77.0 min	81.1	50.0	11	C	C	E	B

[1] Complying with Aluminum Association, ASTM and Federal Specifications
[2] Ratings A-E are relative ratings in decreasing order of merit
[3] Industry averages as published by Aluminum Association. Should not be used for design purposes
[4] Computed Beneke averages. Should not be used for design purposes
[5] Larger sizes may be available subject to inquiry

FINISHES: Below is a list of available finishes for 7075 alloy. These finishes greatly improve cold heading and machinability of 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 7075 wire and rod.