2117

Specialty Aluminum Wire

ALUMINUM ALLOY TECHNICAL SPECIFICATION SHEET

GENERAL: Copper is the primary constituent in this alloy, which is used mainly in applications where medium strength is required. The alloy has good formability in H15 cold heading temper and in many cases can be formed directly from pre-heat treated wire and rod. Applications include solid rivets for truck trailer bodies and aerospace.

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

									Others		
Si	**Fe**	**Cu**	**Mn**	**Mg**	**Cr**	**Ni**	**Zn**	**Ti**	**Each**	**Total**	**Al (min)**
0.8	0.7	2.2-3.0	0.20	0.20-0.5	0.10	-	0.25	-	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]**
2117-O	.715	25.0 max	22.0	15	28	C	A	A	D
-H12	.715	-	25.0	16	23	C	B	A	D
-H13	.715	25.0-32.0	27.0	17	20	C	B	B	D
-H15	.625	28.0-35.0	29.6	19	18	C	B	B	C
-T4	.715	38.0 min	43.5	29	24	C	A	C	C

[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: For most applications, there is no appreciable improvement in getting a special finish for cold heading 2117 alloy in H-tempers. T-temper cold heading is very dependent on the below special finishes:

1) 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 heat treated wire and rod.

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.