

5154

ALUMINUM ALLOY TECHNICAL SPECIFICATION SHEET

GENERAL: Magnesium is the primary constituent in this alloy. Alloy 5154 is a moderate strength, non-heat treatable alloy that combines its strength with excellent formability and corrosion resistance. Traditionally a favorite in wire forms, this alloy is quickly becoming a favorite among cold heading applications, specifically in solid, semi-tubular and tubular rivets. It is an all purpose alloy meeting the needs of a broad range of applications with a moderate price.

CHEMICAL COMPOSITION¹: Compositions in % max, unless otherwise specified.

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others		Al (min)
									Each	Total	
0.25	0.40	.10	0.10	3.1-3.9	0.15-0.35	-	0.20	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,

Temper	Max Diameter ⁵ (inches)	Ultimate Tensile		Typical Shear ³ (ksi)	Typical % El ³ (in 10")	Resistance to Corrosion		Formability ²	Machinability ²
		Specification ¹ (ksi)	Typical ⁴ (ksi)			General ²	SCC ²		
5154-O	.425	30.0-41.0	35.0	22	27	A	A	A	D
-H12	.425	-	-	-	-	A	A	A	D
-H32	.425	36.0 min	39.0	24	15	A	A	A	D
-H14	.380	-	-	-	-	A	A	B	D
-H34	.380	39.0 min	42.0	26	13	A	A	B	D
-H16	.325	-	-	-	-	A	A	C	C
-H36	.325	42.0 min	45.0	28	12	A	A	C	D
-H18	.265	-	-	-	-	A	A	C	C
-H38	.265	45.0 min	48.0	30	10	A	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: Excellent finishes can be obtained with 5154 alloy, especially when Beneke's special finishes are used. The following is a list of available finishes:

- 1) #4 Finish** - A lustrous finish especially 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) Anodizing Finish** - This oxide free surface has specific applications in products that are color anodized or bright dipped as a final operation. Adds a luster to the anodized part. Improves corrosion resistance.
- 3) Bright Finish** - Clean, chrome-like finish comparable to stainless or chrome finish on steel; improves cosmetic appearance of aluminum wire.