

6053



ALUMINUM ALLOY TECHNICAL SPECIFICATION SHEET

GENERAL: Very similar to its counterpart, 6061, this alloy combines proportional limits of silicon and magnesium with a lower level of iron to make 6053 more formable with slightly less strength than 6061. Applications include solid and tubular rivets. The H13 temper is standard for cold heading, but excellent results have been obtained in all tempers, including heat treated wire. Due to its chemical composition, 6053 is used to join a wide range of metals without corrosion problems.

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

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Others		Al (min)
									Each	Total	
45-65% Mg	0.35	0.10	-	1.1-1.4	0.15-0.35	-	0.10	-	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		
6053-O	.625	19.0 max	17.0	11.5	30	B	A	A	D
-H13	.625	19.0-26.0	22.8	16.0	25	B	B	A	D
-H15	.540	-	25.3	-	-	B	B	B	C
-H16	.500	-	28.9	-	-	B	B	B	C
-H19	.460	-	30.0	20.0	16	B	B	B	C
-T4	.625	-	29.7	-	19	A	A	B	C
-T6	.625	30.0 min	35.2	23.5	16	A	A	B	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: Many cold heading applications can be made directly from 6053 alloy in T-temper wire with a Beneke finish listed below.

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.