5052

BENEKE
Specialty Aluminum Wire

ALUMINUM ALLOY TECHNICAL SPECIFICATION SHEET

GENERAL: This non-heat treatable alloy combines moderate levels of magnesium and chromium for adaptability to many applications and environments. This alloy is normally used in applications where good workability, excellent corrosion resistance, and endurance to vibration or repeated bending is required. Applications include tubular, semi-tubular, and solid rivets, as well as numerous wire forms.

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

									Others		
Si	**Fe**	**Cu**	**Mn**	**Mg**	**Cr**	**Ni**	**Zn**	**Ti**	**Each**	**Total**	**Al (min)**
0.25	0.40	.10	0.10	2.2-2.8	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,

		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]**
5052-O	.715	32.0 max	29.5	18	25	A	A	A	E
-H12	.715	-	34.5	-	-	A	A	A	D
-H32	.715	31.0-37.0	33.5	20	12	A	A	A	D
-H14	.650	-	37.5	-	-	A	A	B	D
-H34	.650	-	35.5	21	10	A	A	A	D
-H16	.575	-	43.0	-	-	A	A	B	C
-H36	.575	-	42.0	23	8	A	A	B	D
-H18	.455	-	46.0	-	-	A	A	C	C
-H38	.455	-	44.0	24	7	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: Excellent finishes can be obtained with 5052 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.