

HM Wire International, Inc.

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Alloy 60 - Precision Resistance

Chemical Composition

Nominal Composition	Cu%	Ni%	
	Balance	6	

Mechanical Properties

Melting Point		1,100°C (2,012°F)	
Max Operating Temp		600°C (1,112°F)	
Soft Tensile		30 - 50,000 PSI	
Elongation		15 - 30%	
Yield Point		15 - 35,000 PSI	

Physical Properties

Ω/cir.mil.ft:	60
Conductivity:	91 w / m K
Coefficient of Linear Expansion , 10 ⁻⁶ :	16.0 (20 - 500°C)
Temp. coefficient of Resistance:	0.0005
Weight/Density:	0.321 lbs/cu.in. (8.9 g/cm ³)
Specific Heat:	0.092 cal./gm @ 20°C
Specific Gravity:	8.92

*To be used as a guideline only.

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Resistance Chart

Diameter			Resistance @ 68°F/20°C Ω/ft	Sq. in/Ω	Weight	Ω/lb.	Ft/Lb	Cross Sectional area (in ²)
AWG	Inches	Mm		68°F	lb/1000 ft			
20	0.032	0.812	0.059	20.59	3.10	18.87	322.0	0.000804
21	0.0285	0.723	0.074	14.55	2.46	29.99	406.0	0.000638
22	0.0253	0.644	0.094	10.18	1.94	48.27	515.0	0.000507
23	0.0226	0.573	0.117	7.253	1.54	75.89	646.0	0.000401
24	0.0201	0.51	0.149	5.102	1.21	122.5	825.0	0.000314
25	0.0179	0.455	0.187	3.604	0.971	192.7	1,029	0.000254
26	0.0159	0.405	0.237	2.526	0.766	310.0	1,305	0.000199
27	0.0142	0.361	0.298	1.799	0.611	485.0	1,636	0.000158
28	0.0126	0.321	0.378	1.257	0.481	783.0	2,078	0.000125
29	0.0113	0.286	0.470	0.907	0.386	1,216	2,584	0.000100
30	0.01	0.255	0.600	0.628	0.303	1,980	3,300	0.0000785
31	0.0089	0.227	0.757	0.443	0.240	3,153	4,166	0.0000626
32	0.008	0.202	0.938	0.322	0.193	4,831	5,156	0.0000496
33	0.0071	0.18	1.190	0.225	0.152	7,789	6,546	0.0000394
34	0.0063	0.16	1.512	0.157	0.120	12,554	8,314	0.0000312
35	0.0056	0.143	1.913	0.110	0.0950	20,097	10,522	0.0000247
36	0.005	0.127	2.400	0.0785	0.0750	31,680	13,200	0.0000196
37	0.0045	0.113	2.963	0.0573	0.0610	48,236	16,296	0.0000152
38	0.004	0.101	3.750	0.0402	0.0480	77,343	20,625	0.0000126
39	0.0035	0.09	4.898	0.0269	0.0370	131,726	26,938	0.00000979
40	0.0031	0.08	6.243	0.0187	0.0290	214,275	34,339	0.00000779
41	0.0028	0.07	7.934	0.0131	0.0237	334,185	42,121	0.00000616
42	0.0025	0.063	9.600	0.00982	0.0188	511,474	53,279	0.00000487

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