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Alloy 300 Precision Resistance

ASTM: B267	DIN: 17471/17664/46464	UNS: C72150
Ω/cir. mil. ft.: 294	Weight/Density: .321 lbs/in ² (8.9 g/cm ³)	
Chemical Composition %: Ni 45%, Cu 55%	Conductivity: 21 w/mK	
Temp. Coeff. of Resistance: 0.00002	Specific Gravity: 8.90	
Coeff. of Lin. Expansion, X 10⁻⁶: 13.5(100°C), 14.0(200°C), 14.5(300°C), 15.0 (400°C), 16.0 (500°C)		
Specific Heat: .094 cal./gm @ 20°C	Elongation: 20-40%	
Melting Point: ~1,280°C (~2,336°F)	Yield Point: 20,000-40,000 PSI	
Max Operating Temp: ~550°C (~1,020°F)	Soft Tensile: 60,000-90,000 PSI	

Diameter			Resistance @ 68° F/20° C Ω/ft	Sq. in./Ω 68°F	Weight Lb./1000 ft	Ω/lb.	Ft/Lb.	Cross sectional area (in ²)
B&S	Inches	Mm						
13	0.072	1.83	0.057	47.86	15.7	3.62	63.79	0.00407
14	0.064	1.63	0.072	33.61	12.4	5.79	80.62	0.00322
15	0.057	1.45	0.090	23.75	9.86	9.18	101.4	0.00256
16	0.051	1.29	0.113	17.01	7.82	14.5	127.9	0.00203
17	0.045	1.15	0.145	11.68	6.20	23.4	161.2	0.00161
18	0.04	1.02	0.184	8.207	4.85	37.9	206.0	0.00126
19	0.036	0.912	0.227	5.983	3.93	57.7	254.5	0.00102
20	0.032	0.812	0.287	4.202	3.10	92.7	322.9	0.000804
21	0.0285	0.723	0.362	2.969	2.46	146.0	406.9	0.000638
22	0.0253	0.644	0.459	2.078	1.95	234.0	512.0	0.000507
23	0.0226	0.573	0.576	1.480	1.54	371.0	647.4	0.000401
24	0.0201	0.51	0.728	1.041	1.21	599.0	826.8	0.000314
25	0.0179	0.455	0.918	0.735	0.978	943.0	1,022	0.000254
26	0.0159	0.405	1.163	0.515	0.767	1,513	1,305	0.000199
27	0.0142	0.361	1.458	0.367	0.609	2,372	1,643	0.000158
28	0.0126	0.321	1.852	0.256	0.482	3,844	2,077	0.000125
29	0.0113	0.286	2.302	0.185	0.385	5,943	2,596	0.000100
30	0.01	0.255	2.940	0.128	0.302	9,702	3,307	0.0000785
31	0.0089	0.227	3.710	0.090	0.241	15,455	4,147	0.0000626
32	0.008	0.202	4.594	0.066	0.191	23,666	5,234	0.0000496
33	0.0071	0.18	5.833	0.046	0.152	38,163	6,589	0.0000394
34	0.0063	0.16	7.408	0.032	0.120	61,523	8,321	0.0000312
35	0.0056	0.143	9.375	0.023	0.0951	98,591	10,510	0.0000247
36	0.005	0.127	11.76	0.0160	0.0755	154,440	13,245	0.0000196
37	0.0045	0.113	14.52	0.0117	0.0586	236,292	17,079	0.0000152
38	0.004	0.101	18.37	0.0082	0.0485	377,437	20,604	0.0000126
39	0.0035	0.09	24.00	0.0055	0.0377	646,512	26,517	0.00000979
40	0.0031	0.08	30.59	0.0038	0.0300	1,050,533	33,325	0.00000779
41	0.00275	0.07	38.87	0.0027	0.0237	1,696,131	42,144	0.00000616
42	0.0025	0.063	47.04	0.00200	0.0188	2,483,712	53,307	0.00000487
43	0.00225	0.057	58.07	0.00146	0.0146	3,785,292	68,317	0.00000380
44	0.0020	0.051	73.50	0.00103	0.0121	6,076,751	82,677	0.00000314
45	0.00175	0.044	96.00	0.00069	0.0094	10,256,016	106,833	0.00000243
46	0.0015	0.038	130.67	0.00043	0.0077	16,876,504	129,157	0.00000201
47	0.0014	0.036	150.00	0.00035	0.0059	25,286,240	168,575	0.00000154
48	0.0013	0.033	173.96	0.00028	0.0047	37,324,068	214,550	0.00000121