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## Alloy 211 Nickel

<b>ASTM:</b>	<b>UNS: N02211</b>
<b><math>\Omega</math>/cir. mil. ft.: 102</b>	<b>Weight/Density: .315 lbs/in<sup>2</sup> (8.7 g/cm<sup>3</sup>)</b>
<b>Chemical Composition %: Ni 94% min, C .1%, Cu .2%, Fe .3%, Mg .15%, Mn 4.5-5.5%, S .01%, Si .2%</b>	
<b>Coeff. of Lin. Expansion, X 10<sup>-6</sup>: 14.3 (20-100°C) Specific Heat: .127 cal./gm @ 20°C</b>	
<b>Conductivity: 49 w/mK</b>	<b>Specific Gravity: 8.75</b>
<b>Temp. Coeff. of Resistance: .0032</b>	<b>Elongation: 20-40%</b>
<b>Melting Point: ~1,430°C (~2,610°F)</b>	<b>Yield Point: 25,000-45,000 PSI</b>
<b>Max Operating Temp: ~500°C (~932°F)</b>	<b>Soft Tensile: 50,000-70,000 PSI</b>

Diameter			Resistance @ 68° F/20° C $\Omega$ /ft	Sq. in./ $\Omega$ 68°F	Weight Lb./1000 ft	$\Omega$ /lb.	Ft/Lb.	Cross sectional area (in <sup>2</sup> )
B&S	Inches	Mm						
13	0.072	1.83	0.020	138.0	15.4	1.28	65.00	0.00407
14	0.064	1.63	0.025	96.89	12.2	2.05	82.16	0.00322
15	0.057	1.45	0.031	68.45	9.68	3.24	103.3	0.00256
16	0.051	1.29	0.039	49.03	7.67	5.11	130.3	0.00203
17	0.045	1.15	0.050	33.68	6.09	8.28	164.3	0.00161
18	0.04	1.02	0.064	23.65	4.76	13.4	210.0	0.00126
19	0.036	0.912	0.079	17.24	3.86	20.4	259.4	0.00102
20	0.032	0.812	0.100	12.11	3.04	32.8	329.0	0.000804
21	0.0285	0.723	0.126	8.556	2.41	52.1	414.7	0.000638
22	0.0253	0.644	0.159	5.985	1.92	83.1	521.8	0.000507
23	0.0226	0.573	0.200	4.266	1.52	131.7	659.7	0.000401
24	0.0201	0.51	0.252	3.001	1.19	212.7	842.5	0.000314
25	0.0179	0.455	0.318	2.120	0.960	331.6	1,042	0.000254
26	0.0159	0.405	0.403	1.486	0.752	536.4	1,329	0.000199
27	0.0142	0.361	0.506	1.058	0.597	847.0	1,674	0.000158
28	0.0126	0.321	0.642	0.739	0.473	1,360	2,116	0.000125
29	0.0113	0.286	0.799	0.533	0.378	2,113	2,646	0.000100
30	0.01	0.255	1.020	0.370	0.297	3,437	3,370	0.0000785
31	0.0089	0.227	1.288	0.261	0.237	5,442	4,226	0.0000626
32	0.008	0.202	1.594	0.189	0.187	8,501	5,334	0.0000496
33	0.0071	0.18	2.023	0.132	0.149	13,586	6,714	0.0000394
34	0.0063	0.16	2.570	0.092	0.118	21,791	8,479	0.0000312
35	0.0056	0.143	3.253	0.065	0.0934	34,837	10,711	0.0000247
36	0.005	0.127	4.080	0.0462	0.0741	55,070	13,497	0.0000196
37	0.0045	0.113	5.037	0.0337	0.0575	87,668	17,405	0.0000152
38	0.004	0.101	6.375	0.0237	0.0476	133,850	20,996	0.0000126
39	0.0035	0.09	8.327	0.0158	0.0370	225,004	27,022	0.00000979
40	0.0031	0.08	10.614	0.0110	0.0294	360,452	33,960	0.00000779
41	0.00275	0.07	13.488	0.0077	0.0233	579,245	42,946	0.00000616
42	0.0025	0.063	16.320	0.00577	0.0184	886,542	54,322	0.00000487
43	0.00225	0.057	20.148	0.00421	0.0144	1,402,684	69,618	0.00000380
44	0.0020	0.051	25.500	0.00296	0.0119	2,148,418	84,252	0.00000314
45	0.00175	0.044	33.306	0.00198	0.0092	3,625,985	108,868	0.00000243
46	0.0015	0.038	45.333	0.00125	0.0076	5,966,639	131,617	0.00000201
47	0.0014	0.036	52.041	0.00101	0.0058	8,939,878	171,786	0.00000154
48	0.0013	0.033	60.355	0.00081	0.0046	13,195,817	218,637	0.00000121