

ALLOY 521 BRONZE

BRONZE

ASTM: B159	UNS: C52100
Ω/cir. mil. ft.: 80	Weight/Density: .318 lbs/in ² (8.8 g/cm ³)
Chemical Composition %: Sn 7-9%, Zn .2%, Fe .1%, P .03-.035%, Pb .05%, Cu - Balance	
Coeff. of Lin. Expansion, X 10⁻⁶: 18.2 (20-300°C)	Specific Heat: .090 cal./gm @ 20°C
Conductivity: 62 w/mK	Specific Gravity: 8.8
Temp. Coeff. of Resistance:	Elongation: 20-40%
Melting Point: ~1,027°C (~1,880°F)	Yield Point: 20,000-40,000 PSI
Max Operating Temp:	Soft Tensile: 53,000-68,000 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	0.015	175.9	15.5	0.99	64.39	0.00407
14	0.064	1.63	0.020	123.5	12.3	1.59	81.38	0.00322
15	0.057	1.45	0.025	87.27	9.77	2.52	102.4	0.00256
16	0.051	1.29	0.031	62.51	7.75	3.97	129.1	0.00203
17	0.045	1.15	0.040	42.94	6.14	6.43	162.8	0.00161
18	0.04	1.02	0.050	30.16	4.81	10.4	208.0	0.00126
19	0.036	0.912	0.062	21.99	3.89	15.9	256.9	0.00102
20	0.032	0.812	0.078	15.44	3.07	25.5	325.9	0.000804
21	0.0285	0.723	0.098	10.91	2.43	40.5	410.7	0.000638
22	0.0253	0.644	0.125	7.631	1.93	64.6	516.9	0.000507
23	0.0226	0.573	0.157	5.440	1.53	102.4	653.5	0.000401
24	0.0201	0.51	0.198	3.827	1.20	165.3	834.6	0.000314
25	0.0179	0.455	0.250	2.703	0.969	257.6	1,032	0.000254
26	0.0159	0.405	0.316	1.894	0.759	416.7	1,317	0.000199
27	0.0142	0.361	0.397	1.349	0.603	658.0	1,659	0.000158
28	0.0126	0.321	0.504	0.943	0.477	1,056	2,096	0.000125
29	0.0113	0.286	0.627	0.680	0.382	1,642	2,621	0.000100
30	0.01	0.255	0.800	0.471	0.300	2,671	3,338	0.0000785
31	0.0089	0.227	1.010	0.332	0.239	4,228	4,186	0.0000626
32	0.008	0.202	1.250	0.241	0.189	6,604	5,283	0.0000496
33	0.0071	0.18	1.587	0.169	0.150	10,555	6,651	0.0000394
34	0.0063	0.16	2.016	0.118	0.119	16,930	8,399	0.0000312
35	0.0056	0.143	2.551	0.083	0.0943	27,065	10,609	0.0000247
36	0.005	0.127	3.200	0.0589	0.0748	42,784	13,370	0.0000196
37	0.0045	0.113	3.951	0.0429	0.0580	68,110	17,240	0.0000152
38	0.004	0.101	5.000	0.0302	0.0481	103,990	20,798	0.0000126
39	0.0035	0.09	6.531	0.0202	0.0374	174,809	26,768	0.00000979
40	0.0031	0.08	8.325	0.0140	0.0297	280,040	33,640	0.00000779
41	0.00275	0.07	10.58	0.0098	0.0235	450,024	42,541	0.00000616
42	0.0025	0.063	12.80	0.00736	0.0186	688,767	53,810	0.00000487
43	0.00225	0.057	15.80	0.00537	0.0145	1,089,765	68,962	0.00000380
44	0.0020	0.051	20.00	0.00377	0.0120	1,669,137	83,457	0.00000314
45	0.00175	0.044	26.12	0.00253	0.0093	2,817,080	107,841	0.00000243
46	0.0015	0.038	35.56	0.00159	0.0077	4,635,569	130,375	0.00000201
47	0.0014	0.036	40.82	0.00129	0.0059	6,945,521	170,165	0.00000154
48	0.0013	0.033	47.34	0.00104	0.0046	10,252,022	216,574	0.00000121