PRECISION WIRE TECHNOLOGIES

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Alloy 304 Stainless Steel

ASTM: ***UNS:*** *S30400*

Ω/cir. mil. ft.: *433* ***Weight/Density:*** *.289 lbs/in² (7.9 g/cm³)*

Chemical Composition %: *Ni 8-10.5%,* ***C .08% max,*** *Cr 18-20%, Si 1% max, Mn 2% max*

Coeff. of Lin. Expansion, X 10⁻⁶: *17.8 (20-500˚C)* ***Specific Heat:*** *.120 cal./gm @ 20˚C*

Conductivity: *16 w/mK* ***Specific Gravity:*** *7.9*

Temp. Coeff. of Resistance: *.00085* ***Elongation:*** *20-40%*

Melting Point: *~1,450˚C (~2,650˚F)* ***Yield Point:*** *20,000-40,000 PSI*

Max Operating Temp: *~600˚C (~1,110˚F)* ***Soft Tensile:*** *80,000-110,000 PSI*

Diameter			Resistance @ 68º F/20º 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	0.084	32.50	14.1	5.92	70.85	0.00407
14	0.064	1.63	0.106	22.82	11.2	9.47	89.55	0.00322
15	0.057	1.45	0.133	16.12	8.88	15.0	112.6	0.00256
16	0.051	1.29	0.166	11.55	7.04	23.6	142.0	0.00203
17	0.045	1.15	0.214	7.934	5.58	38.3	179.1	0.00161
18	0.04	1.02	0.271	5.572	4.37	61.9	228.8	0.00126
19	0.036	0.912	0.334	4.062	3.54	94.5	282.7	0.00102
20	0.032	0.812	0.423	2.853	2.79	151.7	358.6	0.000804
21	0.0285	0.723	0.533	2.015	2.21	240.9	452.0	0.000638
22	0.0253	0.644	0.676	1.410	1.76	384.7	568.7	0.000507
23	0.0226	0.573	0.848	1.005	1.39	609.6	719.1	0.000401
24	0.0201	0.51	1.072	0.707	1.09	984.2	918.3	0.000314
25	0.0179	0.455	1.351	0.499	0.881	1,534	1,135	0.000254
26	0.0159	0.405	1.713	0.350	0.690	2,482	1,449	0.000199
27	0.0142	0.361	2.147	0.249	0.548	3,919	1,825	0.000158
28	0.0126	0.321	2.727	0.174	0.434	6,292	2,307	0.000125
29	0.0113	0.286	3.391	0.126	0.347	9,778	2,884	0.000100
30	0.01	0.255	4.330	0.087	0.272	15,905	3,673	0.0000785
31	0.0089	0.227	5.466	0.061	0.217	25,180	4,606	0.0000626
32	0.008	0.202	6.766	0.045	0.172	39,332	5,814	0.0000496
33	0.0071	0.18	8.590	0.031	0.137	62,863	7,319	0.0000394
34	0.0063	0.16	10.91	0.022	0.108	100,826	9,242	0.0000312
35	0.0056	0.143	13.81	0.015	0.0857	161,189	11,674	0.0000247
36	0.005	0.127	17.32	0.0109	0.0680	254,808	14,712	0.0000196
37	0.0045	0.113	21.38	0.0079	0.0527	405,639	18,970	0.0000152
38	0.004	0.101	27.06	0.0056	0.0437	619,325	22,885	0.0000126
39	0.0035	0.09	35.35	0.0037	0.0340	1,041,094	29,454	0.00000979
40	0.0031	0.08	45.06	0.0026	0.0270	1,667,815	37,015	0.00000779
41	0.00275	0.07	57.26	0.0018	0.0214	2,680,172	46,810	0.00000616
42	0.0025	0.063	69.28	0.00136	0.0169	4,102,039	59,210	0.00000487
43	0.00225	0.057	85.53	0.00099	0.0132	6,490,231	75,882	0.00000380
44	0.0020	0.051	108.25	0.00070	0.0109	9,940,750	91,831	0.00000314
45	0.00175	0.044	141.39	0.00047	0.0084	16,777,469	118,663	0.00000243
46	0.0015	0.038	192.44	0.00029	0.0070	27,607,700	143,458	0.00000201
47	0.0014	0.036	220.92	0.00024	0.0053	41,364,903	187,241	0.00000154
48	0.0013	0.033	256.21	0.00019	0.0042	61,057,179	238,306	0.00000121