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Resistance Chart Comparing Stainless Steel Grades 304 & 316 vs ETP Copper

AWG Number	Diameter Inches	Type 304 433	Type 316 445	ETU Cu 10.3	AWG Number	Diameter Inches	Type 304 433	Type 316 445	ETU Cu 10.3
Resistivity Ohm.cm/ft					Resistivity Ohm.cm/ft				
6/0	0.58000	0.00129	0.00132	0.00003	18	0.04030	0.26661	0.27400	0.00634
5/0	0.51700	0.00162	0.00166	0.00004	19	0.03590	0.33597	0.34528	0.00799
4/0	0.46000	0.00205	0.00210	0.00005	20	0.03200	0.42285	0.43457	0.01006
3/0	0.41000	0.00258	0.00265	0.00006	21	0.02850	0.53309	0.54786	0.01268
2/0	0.36500	0.00325	0.00334	0.00008	22	0.02530	0.67647	0.69521	0.01609
1/0	0.32500	0.00410	0.00421	0.00010	23	0.02260	0.84776	0.87125	0.02017
1	0.28900	0.00518	0.00533	0.00012	24	0.02010	1.07176	1.10146	0.02549
2	0.25800	0.00651	0.00669	0.00015	25	0.01790	1.35139	1.38885	0.03215
3	0.22900	0.00826	0.00849	0.00020	26	0.01590	1.71275	1.76022	0.04074
4	0.20400	0.01040	0.01069	0.00025	27	0.01420	2.14739	2.20690	0.05108
5	0.18200	0.01307	0.01343	0.00031	28	0.01260	2.72739	2.80297	0.06499
6	0.16200	0.01650	0.01696	0.00039	29	0.01130	3.39103	3.48500	0.08066
7	0.14400	0.02088	0.02146	0.00050	30	0.01000	4.33000	4.45000	0.10300
8	0.12800	0.02643	0.02716	0.00063	31	0.00893	5.42981	5.58029	0.12916
9	0.11400	0.03332	0.03424	0.00079	32	0.00795	6.85099	7.04086	0.16297
10	0.10200	0.04162	0.04277	0.00099	33	0.00708	8.63816	8.87756	0.20548
11	0.09070	0.05263	0.05409	0.00125	34	0.00631	10.87500	11.17638	0.25869
12	0.08080	0.06632	0.06816	0.00158	35	0.00562	13.70930	14.08923	0.32611
13	0.07200	0.08353	0.08584	0.00199	36	0.00500	17.32000	17.80000	0.41200
14	0.06410	0.10538	0.10830	0.00251	37	0.00445	21.86593	22.47191	0.52014
15	0.05710	0.13281	0.13649	0.00316	38	0.00397	27.47305	28.23443	0.65352
16	0.05080	0.16779	0.17244	0.00399	39	0.00353	34.74869	35.71171	0.82659
17	0.04530	0.21100	0.21685	0.00502	40	0.00314	43.91659	45.13368	1.04467

Note that chemistry will lead to some variation of the resistivity value. Therefore it is common practice to order to resistance than just wire gauge.

* Special thanks to S.Lee of Central Wire

To be used as a guideline only.

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