CONDUCTOR PROPERTIES

Size AWG/ kcmil	Area Cir. Mils	Conductors: Stranding Quantity	Conductors: Stranding Diam. In.	Conductors: Overall Diam. In.	Conductors: Overall Area In²	DC Resistance at 75°C (167°F): Copper Uncoated ohm/kFT	DC Resistance at 75°C (167°F): Copper Coated ohm/kFT	DC Resistance at 75°C (167°F): Aluminum ohm/ kFT
18	1620	1	----	0.040	0.001	7.77	8.08	12.8
18	1620	7	0.015	0.046	0.002	7.95	8.45	13.1
16	2580	1	----	0.051	0.002	4.89	5.08	8.05
16	2580	7	0.019	0.058	0.003	4.99	5.29	8.21
14	4110	1	----	0.064	0.003	3.07	3.19	5.06
14	4110	7	0.024	0.073	0.004	3.14	3.26	5.17
12	6530	1	----	0.081	0.005	1.93	2.01	3.18
12	6530	7	0.030	0.092	0.006	1.98	2.05	3.25
10	10380	1	----	0.102	0.008	1.21	1.26	2.00
10	10380	7	0.038	0.116	0.011	1.24	1.29	2.04
8	16510	1	----	0.128	0.013	0.764	0.786	1.26
8	16510	7	0.049	0.146	0.017	0.778	0.809	1.28
6	26240	7	0.061	0.184	0.027	0.491	0.510	0.808
4	41740	7	0.077	0.232	0.042	0.308	0.321	0.508
3	52620	7	0.087	0.260	0.053	0.245	0.254	0.403
2	66360	7	0.097	0.292	0.067	0.194	0.201	0.319
1	83690	19	0.066	0.332	0.087	0.154	0.160	0.253
1/0	105600	19	0.074	0.372	0.109	0.122	0.127	0.201
2/0	133100	19	0.084	0.418	0.137	0.0967	0.101	0.159
3/0	167800	19	0.094	0.470	0.173	0.0766	0.0797	0.126
4/0	211600	19	0.106	0.528	0.219	0.0608	0.0626	0.100
250	----	37	0.082	0.575	0.260	0.0515	0.0535	0.0847
300	----	37	0.090	0.630	0.312	0.0429	0.0446	0.0707
350	----	37	0.097	0.681	0.364	0.0367	0.0382	0.0605
400	----	37	0.104	0.728	0.416	0.0321	0.0331	0.0529
500	----	37	0.116	0.813	0.519	0.0258	0.0265	0.0424
600	----	61	0.099	0.893	0.626	0.0214	0.0223	0.0353
700	----	61	0.107	0.964	0.730	0.0184	0.0189	0.0303
750	----	61	0.111	0.998	0.782	0.0171	0.0176	0.0282
800	----	61	0.114	1.030	0.834	0.0161	0.0166	0.0265
900	----	61	0.122	1.094	0.940	0.0143	0.0147	0.0235
1000	----	61	0.128	1.152	1.042	0.0129	0.0132	0.0212
1250	----	91	0.117	1.289	1.305	0.0103	0.0106	0.0169
1500	----	91	0.128	1.412	1.566	0.00858	0.00883	0.0141
1750	----	127	0.117	1.526	1.829	0.00735	0.00756	0.0121
2000	----	127	0.126	1.632	2.092	0.00643	0.00662	0.0106

These resistance values are valid ONLY for the parameters as given. Using conductors having coated strands, different stranding type, and, especially, other temperatures changes the resistance.

Formula for temperature change $R_2 = R_1 [1 + \alpha(T_2 - 75)]$ where $\alpha_{Cu} = 0.00323$, $\alpha_{AL} = 0.00330$ at 75°C

See NEC Chapter 9 Table 8. See Ugly's page 130 - 138 for metric conversions.