

Wire mm

8.0–0.02 mm Ø
 Resistivity $\Omega \text{ mm}^2 \text{ m}^{-1}$ 1.35
 Density, g cm^{-3} 7.25

$$\text{cm}^2/\Omega = \frac{l^2 C_t}{\rho}$$

l = Current
 C_t = Temperature factor
 ρ = Surface load W/cm^2

To obtain resistance at working temperature multiply by the factor C_t in the following table:

°C	20	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400
C_t	1.00	1.00	1.01	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.07	1.07	1.08	1.08	

Diameter mm	Resistance Ω/m 20°C	cm^2/Ω 20°C	Weight g/m	Surface area cm^2/m	Cross sectional area mm^2	Diameter mm
8.0	0.0269	9360	364	251	50.3	8.0
6.0	0.0477	3950	205	188	28.3	6.0
5.5	0.0568	3040	172	173	23.8	5.5
5.0	0.0688	2280	142	157	19.6	5.0
4.75	0.0762	1960	128	149	17.7	4.75
4.5	0.0849	1670	115	141	15.9	4.5
4.25	0.0952	1400	103	134	14.2	4.25
4.0	0.1070	1170	91.1	126	12.6	4.0
3.75	0.1220	964	80.1	118	11.0	3.75
3.5	0.1400	784	69.8	110	9.62	3.5
3.25	0.1630	627	60.1	102	8.30	3.25
3.0	0.1910	493	51.2	94.2	7.07	3.0
2.8	0.2190	401	44.6	88.0	6.16	2.8
2.5	0.275	286	35.6	78.5	4.91	2.5
2.25	0.340	208	28.8	70.7	3.98	2.25
2.0	0.430	146	22.8	62.8	3.14	2.0
1.8	0.531	107	18.4	56.5	2.54	1.8
1.7	0.595	89.8	16.5	53.4	2.27	1.7
1.6	0.671	74.9	14.6	50.3	2.01	1.6
1.5	0.764	61.7	12.8	47.1	1.77	1.5
1.4	0.877	50.2	11.2	44.0	1.54	1.4
1.3	1.02	40.2	9.6	40.8	1.33	1.3
1.2	1.19	31.6	8.2	37.7	1.13	1.2
1.1	1.42	24.3	6.9	34.6	0.950	1.1
1.0	1.72	18.3	5.7	31.4	0.785	1.0
0.95	1.90	15.7	5.1	29.8	0.709	0.95
0.90	2.12	13.3	4.6	28.3	0.636	0.90
0.85	2.38	11.2	4.1	26.7	0.567	0.85
0.80	2.69	9.36	3.64	25.1	0.503	0.80
0.75	3.06	7.71	3.20	23.6	0.442	0.75
0.70	3.51	6.27	2.79	22.0	0.385	0.70
0.65	4.07	5.02	2.41	20.4	0.332	0.65
0.60	4.77	3.95	2.05	18.8	0.283	0.60
0.55	5.68	3.04	1.72	17.3	0.238	0.55
0.50	6.88	2.28	1.42	15.7	0.196	0.50
0.475	7.62	1.96	1.28	14.9	0.177	0.475
0.45	8.49	1.67	1.15	14.1	0.159	0.45
0.425	9.52	1.40	1.03	13.4	0.142	0.425
0.40	10.7	1.17	0.911	12.6	0.126	0.40
0.375	12.2	0.964	0.801	11.8	0.110	0.375
0.35	14.0	0.784	0.698	11.0	0.0962	0.35
0.32	16.8	0.599	0.583	10.1	0.0804	0.325
0.30	19.1	0.493	0.512	9.42	0.0707	0.30
0.28	21.9	0.401	0.446	8.80	0.0616	0.28
0.26	25.4	0.321	0.385	8.17	0.0531	0.26

Diameter mm	Resistance Ω/m 20°C	cm^2/Ω 20°C	Weight g/m	Surface area cm^2/m	Cross sectional area mm^2	Diameter mm
0.25	27.5	0.286	0.356	7.85	0.0491	0.25
0.24	29.8	0.253	0.328	7.54	0.0452	0.24
0.23	32.5	0.222	0.301	7.23	0.0415	0.23
0.22	35.5	0.195	0.276	6.91	0.0380	0.22
0.21	39.0	0.169	0.251	6.60	0.0346	0.21
0.20	43.0	0.146	0.228	6.28	0.0314	0.20
0.19	47.6	0.125	0.206	5.97	0.0284	0.19
0.18	53.1	0.107	0.184	5.65	0.0254	0.18
0.17	59.5	0.0898	0.165	5.34	0.0227	0.17
0.16	67.1	0.0749	0.146	5.03	0.0201	0.16
0.15	76.4	0.0617	0.128	4.71	0.0177	0.15
0.14	87.7	0.0502	0.112	4.40	0.0154	0.14
0.13	102	0.0402	0.0962	4.08	0.0133	0.13
0.12	119	0.0316	0.0820	3.77	0.0113	0.12
0.11	142	0.0243	0.0689	3.46	0.0095	0.11
0.10	172	0.0183	0.0569	3.14	0.00785	0.10
0.090	212	0.0133	0.0461	2.83	0.00636	0.090
0.080	269	0.00936	0.0364	2.51	0.00503	0.080
0.070	351	0.00627	0.0279	2.20	0.00385	0.070
0.060	477	0.00395	0.0205	1.88	0.00283	0.060
0.050	688	0.00228	0.0142	1.57	0.00196	0.050
0.040	1070	0.00117	0.00911	1.26	0.00126	0.040
0.030	1910	0.000493	0.00512	0.942	0.000707	0.030
0.020	4300	0.000146	0.00228	0.628	0.000314	0.020

This table is only meant for element calculations. Regarding standard stock items, please contact your local Kanthal subsidiary/representative or Kanthal Electroheat, Sweden.