

ohm meter amp-volt zoom cells

ohm meter

(cm)

material: Copper Nichrome Constantan

diameter of wire (mm):

meter readings: resistance (ohms)

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Resistance data for metal wires

see also [resistivity](#) [temperature coefficient of resistance](#)

The table below gives some data about the resistance of wires made from various materials. SWG stands for standard wire gauge and is a common way of quoting wire diameters. The equivalent diameter in millimetres is also given. N.B. Some of these diameters are very small - why would this present a problem in an actual experiment?

S.W.G	diameter (mm)	resistance per metre (ohm/m)			
		copper	manganin	constantan	nichrome
12	6.640	0.00315	0.077	0.088	0.188
14	2.030	0.00532	0.129	0.0148	0.318
16	1.630	0.00831	0.202	0.231	0.496
18	1.220	0.0148	0.36	0.411	0.882
20	0.914	0.0263	0.64	0.731	1.57
22	0.711	0.0434	1.06	1.21	2.59
24	0.559	0.0703	1.71	1.96	4.2
26	0.457	0.105	2.56	2.92	6.27
28	0.376	0.155	3.78	4.32	9.28
30	0.315	0.221	5.39	6.16	13.2
32	0.274	0.292	7.11	8.12	17.4
34	0.234	0.402	9.79	11.2	24
36	0.193	0.589	14.3	16.4	35.2
38	0.152	0.945	23	26.3	56.5
40	0.122	1.48	36	41.1	88.2
42	0.102	2.13	51.8	59.2	127
44	0.081	3.32	80.9	92.5	199
46	0.061	5.91	144	165	353
48	0.041	13.3	324	370	794
50	0.025	34	829	947	2030

start current