

Wire

Order code	Manufacturer code	Description
05-0500	n/a	125G REEL 18SWG NICHROME WIRE (RC)
05-0505	n/a	125G REEL 20SWG NICHROME WIRE (RC)
05-0510	n/a	125G REEL 22SWG NICHROME WIRE (RC)
05-0515	n/a	125G REEL 24SWG NICHROME WIRE (RC)
05-0520	n/a	125G REEL 26SWG NICHROME WIRE (RC)
05-0525	n/a	125G REEL 28SWG NICHROME WIRE (RC)
05-0530	n/a	125G REEL 30SWG NICHROME WIRE (RC)
05-0535	n/a	125G REEL 32SWG NICHROME WIRE (RC)

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 12/12/2006

NICHROME

Having a nominal composition of 60 per cent nickel, 15 per cent chromium, balance iron, this alloy has won universal acceptance among users of metallic resistance materials - and has, indeed, set the standard by which others are judged.

It is an excellent choice for heating elements operating at temperatures up to 1100°C, which includes most types of domestic appliances and other heating units operating in the medium temperature range.

The resistance of Nichrome to corrosion makes it a very useful material for a variety of non-electrical applications. Typical uses are for acid-dipping baskets, cyanide-hardening containers, wire-mesh filters and structural parts of furnaces.

RESISTANCE DATA

Specific resistance 675 ohms per circular mil-foot at 20°C.

WG	Diameter		Superficial area cm ² /m	Resistance per unit length		Weight		Length		Resistance per unit wgt	
	mm	in		ohms/m	ohms/ft	g/m	lb/1000ft	m/kg	ft/lb	ohms/kg	ohms/lb
18	1.219	0.048	38.30	0.9596	0.2925	9.629	6.470	103.9	154.6	99.70	45.22
20	0.914	0.036	28.71	1.707	0.5203	5.413	3.637	184.7	274.9	315.3	143.0
22	0.711	0.028	22.34	2.821	0.8598	3.276	2.201	305.3	454.3	861.3	390.7
24	0.559	0.022	17.56	4.563	1.391	2.025	1.361	493.8	734.9	2,253.0	1,022.0
26	0.457	0.018	14.36	6.828	2.081	1.353	0.9092	739.1	1,100.0	5,047.0	2,289.0
28	0.376	0.0148	11.81	10.09	3.075	0.9161	0.6156	1,092.0	1,625.0	11,020.0	4,999.0
30	0.315	0.0124	9.896	14.37	4.380	0.6429	0.4320	1,555.0	2,314.0	22,350.0	10,140.0
32	0.274	0.0108	8.608	18.99	5.788	0.4865	0.3269	2,055.0	3,058.0	39,020.0	17,700.0

Nominal Composition	Nickel	60.0%
	Chromium	15.0%
	Manganese	1.5%
	Silicon	1.5%
	Iron	Balance
Aluminium	—	
Maximum Operating Temperature	Degrees C	1100
Specific Resistance at 20°C	Microhm-cm	112
	Ohms/circular mil-foot	675
	Ohms/square mil-foot	530
Temperature Coefficient of Resistance, Mean Value 20—1000°C	Per degree C	0.00013
	Specific Heat	J/kg/°C
Thermal Conductivity at 100°C	W/m/°C	13.3
	Melting point (approx.)	Degrees C
Coefficient of Linear Expansion, Mean Value 20—1000°C	Per degree C	0.000017
	Tensile Strength, Annealed	mN/m ²
Density	g/cm ³	8.25

Factors for Determining Resistance at Temperature

Temperature Degrees C	Resistance in ohms
20	1.000
100	1.012
200	1.028
300	1.046
400	1.064
500	1.082
600	1.092
700	1.100
800	1.107
900	1.114
1000	1.123
1100	1.132

