

# Resistance Heating Ribbon Wire

## Nickel-Chromium Alloy 80% Nickel/20% Chromium

NCCR Series  
30 m (100') Spool



- ✓ Uniformity of Resistance
- ✓ Mechanical Stability
- ✓ Fine Surface Finish

✓ Nickel-Chromium Wire (80Ni-20Cr) is Proven to Deliver Outstanding Performance Over Extended Periods of Time and is the Same Wire OMEGA Uses in Our Own Electrical Heating Elements



100' spool of NCCR-15-100 shown smaller than actual size.

### Resistance Wire–Current vs. Temperature

Current Carrying Capacity of Straight Nickel Chromium Wire

Approximate amperes to heat a straight, oxidized wire in quiet air to given temperature

		°F	400	600	800	1000	1200	1400
		°C	205	315	427	538	649	760
AWG or B & S	Inches Diameter	Amperes						
15	0.057	7.2	10.0	12.8	16.1	20.0	24.5	
16	0.051	6.4	8.7	10.9	13.7	17.0	20.9	
17	0.045	5.5	7.5	9.5	11.7	14.5	17.6	
18	0.040	4.8	6.5	8.2	10.1	12.2	14.8	
19	0.036	4.3	5.8	7.2	8.7	10.6	12.7	
20	0.032	3.8	5.1	6.3	7.6	9.1	11.0	
21	0.0285	3.3	4.3	5.3	6.5	7.8	9.4	
22	0.0253	2.9	3.7	4.5	5.6	6.8	8.2	
23	0.0226	2.58	3.3	4.0	4.9	5.9	7.0	
24	0.0201	2.21	2.9	3.4	4.2	5.1	6.0	
25	0.0179	1.92	2.52	3.0	3.6	4.3	5.2	
26	0.0159	1.67	2.14	2.60	3.2	3.8	4.5	
27	0.0142	1.44	1.84	2.25	2.73	3.3	3.9	
28	0.0126	1.24	1.61	1.95	2.38	2.85	3.4	
29	0.0113	1.08	1.41	1.73	2.10	2.51	2.95	
30	0.0100	0.92	1.19	1.47	1.78	2.14	2.52	
31	0.0089	0.77	1.03	1.28	1.54	1.84	2.17	
32	0.0080	0.68	0.90	1.13	1.36	1.62	1.89	
33	0.0071	0.59	0.79	0.97	1.17	1.40	1.62	
34	0.0063	0.50	0.68	0.83	1.00	1.20	1.41	
35	0.0056	0.43	0.57	0.72	0.87	1.03	1.21	
36	0.0050	0.38	0.52	0.63	0.77	0.89	1.04	
37	0.0045	0.35	0.46	0.57	0.68	0.78	0.90	
38	0.0040	0.30	0.41	0.50	0.59	0.68	0.78	
39	0.0035	0.27	0.36	0.42	0.49	0.58	0.66	
40	0.0031	0.24	0.31	0.36	0.43	0.50	0.57	

## Current Carrying Capacity of Ribbon Nickel Chromium Wire

At 648°C (1200°F) Approximate

Thickness in Inches	Width-Inches					
	1/64	1/32	1/16	3/32	1/8	3/16
	Amps					
0.0063	1.56	2.89	5.5	8.2	10.1	16.6
0.0056	1.45	2.69	5.2	7.2	9.5	15.6
0.0050	1.35	2.52	4.9	6.8	9.0	14.7
0.0045	1.26	2.38	4.6	6.4	8.5	14.0
0.0040	1.18	2.23	4.1	6.0	8.0	13.1
0.0035	1.09	2.07	3.8	5.6	7.5	12.3
0.0031	1.01	1.94	3.6	5.3	7.0	11.5
0.0020	—	—	—	—	—	—
0.0015	4	—	—	—	—	—

The current values above are based on actual tests of single strands of oxidized wire mounted in quiet air and operated at 648°C (1200°F). The tables are calculated for wire having a resistivity at 648°C (1200°F) and a total surface watts-density of 28 W per square inch.

## To Order *Visit [omega.com/ncrr\\_series](http://omega.com/ncrr_series) for Pricing and Details*

Model No.	Thickness	Width	Ω/ft*
NCRR-1-100	0.0015"	1/64"	22.75
NCRR-2-100	0.002"	1/64"	17.36
NCRR-3-100	0.0031"	1/64"	11.20
NCRR-4-100	0.0035"	1/64"	9.99
NCRR-5-100	0.004"	1/64"	8.68
NCRR-6-100	0.0045"	1/64"	7.12
NCRR-7-100	0.005"	1/64"	6.95
NCRR-8-100	0.0056"	1/64"	6.20
NCRR-9-100	0.0063"	1/64"	5.51
NCRR-10-100	0.002"	1/32"	9.83
NCRR-11-100	0.0031"	1/32"	5.60
NCRR-12-100	0.0035"	1/32"	4.96
NCRR-13-100	0.004"	1/32"	4.34
NCRR-14-100	0.0045"	1/32"	3.86
NCRR-15-100	0.005"	1/32"	3.47
NCRR-16-100	0.0063"	1/32"	2.76
NCRR-17-100	0.0031"	1/16"	3.17
NCRR-18-100	0.0035"	1/16"	2.81
NCRR-19-100	0.004"	1/16"	2.46
NCRR-20-100	0.0045"	1/16"	1.93
NCRR-21-100	0.005"	1/16"	1.74
NCRR-22-100	0.0056"	1/16"	1.55
NCRR-23-100	0.0063"	1/16"	1.38
NCRR-25-100	0.0031"	3/32"	2.11
NCRR-26-100	0.0035"	3/32"	1.87
NCRR-27-100	0.0045"	3/32"	1.46
NCRR-28-100	0.0063"	3/32"	0.91
NCRR-29-100	0.0031"	1/8"	1.59
NCRR-30-100	0.0035"	1/8"	1.40
NCRR-31-100	0.004"	1/8"	1.23
NCRR-32-100	0.0045"	1/8"	1.09
NCRR-33-100	0.005"	1/8"	0.98
NCRR-34-100	0.0056"	1/8"	0.88
NCRR-35-100	0.0031"	3/16"	0.88
NCRR-36-100	0.0035"	3/16"	0.78
NCRR-37-100	0.004"	3/16"	0.68
NCRR-38-100	0.0045"	3/16"	0.60
NCRR-39-100	0.005"	3/16"	0.54

\* Resistance tolerance: ±5%

Ordering Example: NCRR-15-100, 100' spool of 0.0035" thickness of heating ribbon wire.

# omega.co.uk<sup>®</sup>

Your One-Stop Source for Process Measurement and Control!

Freephone 0800 488 488 | International +44(0) 161 777 6622 | Fax +44(0) 161 777 6622 | Sales@omega.co.uk

[www.omega.co.uk](http://www.omega.co.uk)



#### UNITED STATES

[www.omega.com](http://www.omega.com)

1-800-TC-OMEGA  
Stamford, CT.

#### UNITED KINGDOM

[www.omega.co.uk](http://www.omega.co.uk)

Manchester, England  
0800-488-488  
+44-(0)161-777-6611

#### CANADA

[www.omega.ca](http://www.omega.ca)

Laval(Quebec)  
1-800-TC-OMEGA

#### FRANCE

[www.omega.fr](http://www.omega.fr)

0800-466-342

#### GERMANY

[www.omega.de](http://www.omega.de)

Deckenfronn, Germany  
0800-8266342

#### BENELUX

[www.omega.nl](http://www.omega.nl)

0800-099-33-44



## More than 100,000 Products Available!

### • Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders, Relative Humidity Measurement Instruments, PT100 Probes, PT100 Elements, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples, Thermowells and Head and Well Assemblies, Transmitters, Thermocouple Wire, RTD Probes

### • Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

### • pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

### • Data Acquisition

Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ethernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

### • Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

### • Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters