



Resistance Wire

Resistance Wire

TEMPCO stocks a large amount of resistance wire that is required in our own manufacturing. We have made this inventory available to you for use in applications such as industrial heating, kilns, process heating and small-scale manufacturing.

The resistance wire is offered both in round wire and ribbon.

Type A: Wire only 2190°F (1200°C)

Type C: Wire 2100°F (1150°C) Ribbon 2100°F (1150°C)

Type D: Wire only 2370°F (1300°C)

"A" Wire (Kanthal Nikrothal 80 or Equivalent)

Composition: 80% Nickel, 20% Chromium

Specific Resistance: 655 Ohms / circ. mil foot @ 68°F / 20°C

Maximum continuous

operating temperature: 2190°F / 1200°C
(element temperature in air)

Melting Point: 1400°C / 2550°F

Density: (lbs/in³): 0.300

Specific Gravity: 8.41

Resistance Tolerance: 8 ga. through 23 ga. ±3%, 24 ga. through 36 ga. ±5%, 37 ga. through 43 ga. ±8%



Note: To obtain the working temperature resistance, multiply the factor by the room temperature resistance.

Temp. °F	68	212	392	752	1112	1292	1472	1652	1832	2012	2192
Temp. °C	20	100	200	400	600	700	800	900	1000	1100	1200
Factor	1.00	1.01	1.02	1.04	1.05	1.04	1.04	1.04	1.05	1.05	1.06

(These figures are given as a basis for engineering calculations and represent average material as supplied.)

Part Number	Gauge (AWG)	Diameter	Resistance at 68°F/20°C ohms/ft.	Weight lb./1000 ft.	Length ft./lb.	Nominal Spool Weight	Standard Spool Size Code
RES-101-142	8	0.129	0.0397	46.7	21.4	24	—
RES-101-132	9	0.114	0.0501	37	27	24	—
RES-101-131	12	0.0808	0.100	18.5	54.1	24	—
RES-101-102	17	0.0453	0.320	5.8	172.4	6	D
RES-101-130	18	0.0403	0.404	4.59	217.9	10	D
RES-101-103	19	0.0359	0.509	3.64	274.7	9	D
RES-101-104	20	0.0320	0.640	2.9	344.8	10	D
RES-101-105	21	0.0285	0.807	2.3	434.8	8	D
RES-101-106	22	0.0253	1.02	1.81	552.5	9	D
RES-101-107	23	0.0226	1.28	1.44	694.4	5	C
RES-101-108	24	0.0201	1.62	1.14	877.2	10	D
RES-101-109	25	0.0179	2.05	0.906	1104	5	C
RES-101-110	26	0.0159	2.59	0.715	1399	2	F
RES-101-111	27	0.0142	3.25	0.57	1754	2	F
RES-101-112	28	0.0126	4.13	0.449	2227	3.5	F
RES-101-113	29	0.0113	5.13	0.361	2770	3.5	F
RES-101-114	30	0.0100	6.56	0.283	3534	2.25	F
RES-101-115	31	0.00890	8.28	0.224	4465	2.25	F
RES-101-116	32	0.00800	10.20	0.181	5525	2.5	F
RES-101-117	33	0.00710	13.00	0.143	6993	1.75	F
RES-101-118	34	0.00630	16.50	0.112	8929	2	B
RES-101-119	35	0.00560	20.90	0.0887	11,274	1	A
RES-101-120	36	0.00500	26.20	0.0707	14,144	1	A
RES-101-121	37	0.00450	32.40	0.0573	17,452	1	A
RES-101-122	38	0.00400	41.00	0.0452	22,124	1	A
RES-101-123	39	0.00350	53.50	0.0346	28,901	1	A
RES-101-124	40	0.00310	68.20	0.0272	36,765	1	A
RES-101-125	41	0.00280	83.60	0.0222	45,045	0.5	A
RES-101-126	42	0.00250	105.00	0.0177	56,497	0.3	A
RES-101-127	43	0.00220	135.00	0.0137	72,993	0.35	A



All Items Available from Stock

Cross Reference Chart

Kanthal	Hoskins	Driver-Harris	Carpenter	Rescal	Calfine Wire	Harrison	Thyssen Krup VDM	MWS Wire	Jelliff	Molecu
Nikrothal 60	Chromel C	Nichrome	Tophet C	Resistohm 60	Stablohm 675	HAI-NiCr 60	Cronifer II	MWS-675	Alloy C	Electroloy
Nikrothal 80	Chromel A	Nichrome V	Tophet A	Resistohm 80	Stablohm 650	Nichrome V	Cronix 80	MWS-650	Alloy A	Protoloy
Kanthal D	Alloy 815	—	Alchrome DK	Resistohm 135	Stablohm 812	Alferon 901	Aluchrom 5	—	—	—

"C" Wire (Kanthal Nikrothal 60 or Equivalent)

Composition: 60% Nickel, 16% Chromium, Fe balance

Specific Resistance: 668 Ohms / circ. mil foot @ 68°F / 20°C

Maximum continuous

operating temperature: 2100°F / 1150°C

(element temperature in air)

Melting Point: 1390°C / 2535°F

Density: (lbs / in³): 0.296

Specific Gravity: 8.25

Resistance Tolerance: 16 ga. through 23 ga. ±3%, 24 ga. through 36 ga. ±5%, 37 ga. through 44 ga. ±8%



Note: To obtain the working temperature resistance, multiply the factor by the room temperature resistance.

Temp. °F	68	212	392	752	1112	1292	1472	1652	1832	2012	2192
Temp. °C	20	100	200	400	600	700	800	900	1000	1100	1200
Factor	1.00	1.02	1.04	1.06	1.09	1.09	1.10	1.10	1.11	1.12	1.13

(These figures are given as a basis for engineering calculations and represent average material as supplied.)

Part Number	Gauge (AWG)	Diameter	Resistance at 68°F/20°C ohms/ft.	Weight lb./1000 ft.	Length ft./lb.	Nominal Spool Weight	Standard Spool Size Code
RES-103-102	16	0.0508	0.259	7.2	138.9	8	D
RES-103-103	17	0.0453	0.325	5.72	174.8	10	D
RES-103-104	18	0.0403	0.411	4.53	220.8	10	D
RES-103-105	19	0.0359	0.518	3.6	277.8	8	D
RES-103-106	20	0.0320	0.652	2.86	349.7	10	D
RES-103-107	21	0.0285	0.822	2.27	440.5	10	D
RES-103-108	22	0.0253	1.04	1.79	558.7	9	D
RES-103-109	23	0.0226	1.31	1.42	704.2	6	C
RES-103-110	24	0.0201	1.65	1.13	885	5	C
RES-103-111	25	0.0179	2.08	0.894	1119	5	C
RES-103-112	26	0.0159	2.64	0.705	1418	1.5	B
RES-103-113	27	0.0142	3.31	0.563	1776	5	C
RES-103-114	28	0.0126	4.21	0.443	2257	5	C
RES-103-115	29	0.0113	5.23	0.356	2809	5.25	C
RES-103-116	30	0.0100	6.68	0.279	3584	2	B
RES-103-117	31	0.00890	8.43	0.221	4525	3	F
RES-103-118	32	0.00800	10.4	0.179	5587	3	F
RES-103-119	33	0.00710	13.2	0.141	7092	2	B
RES-103-120	34	0.00630	16.8	0.111	9009	2	B
RES-103-121	35	0.00560	21.3	0.0875	11,429	0.75	A
RES-103-122	36	0.00500	26.7	0.0697	14,347	1	A
RES-103-123	37	0.00450	33.0	0.0565	17,699	0.75	A
RES-103-124	38	0.00400	41.7	0.0446	22,422	0.75	A
RES-103-125	39	0.00350	54.5	0.0342	29,240	1	A
RES-103-126	40	0.00310	69.5	0.0268	37,313	1	A
RES-103-127	41	0.00280	85.2	0.0219	45,662	0.25	A
RES-103-128	42	0.00250	107	0.0174	57,471	0.5	A
RES-103-129	43	0.00220	138	0.01422	70,320	0.5	A
RES-103-130	44	0.00200	167	0.0112	89,286	4	C

Ordering Information

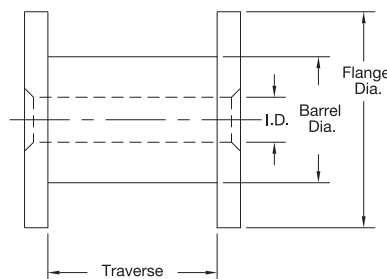
- Specify the part number and quantity in lbs.
- Only full spools are available; re-spooling of smaller quantities is not available.
- Tempco reserves the right to change spool sizes as required.
- Tempco reserves the right to ship ±10% of the stated spool weight.



All Items Available from Stock

Standard Spool Dimensions

Spool Code	Flange		Barrel		Traverse		Bore ID	
	in	mm	in	mm	in	mm	in	mm
A	2.5	63	1.75	44	3	76	.62	16
B	3	76	1.75	44	3	77	.62	16
C	5	127	3	76	3.5	89	.62	16
D	6	152	3.5	89	3.5	89	.62	16
E	3.15	80	2	51	2.5	63	.62	16
F	3.87	98	2.37	59	3.12	79	.62	16
G	4.92	125	3.1	79	3.93	100	.62	16



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

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Resistance Wire

"C" Ribbon (Kanthal Nikrothal 60 or Equivalent)

Composition: 60% Nickel, 16% Chromium, Fe balance

Specific Resistance: 524 Ohms / circ. mil foot @ 68°F / 20°C

Maximum continuous operating temperature: 2100°F / 1150°C
(element temperature in air)

Melting Point: 1390°C / 2535°F

Density: (lbs / in³): 0.296

Specific Gravity: 8.25

Resistance Tolerance: ±5%



Note: To obtain the working temperature resistance, multiply the factor by the room temperature resistance.

Temp. °F	68	212	392	752	1112	1292	1472	1652	1832	2012	2192
Temp. °C	20	100	200	400	600	700	800	900	1000	1100	1200
Factor	1.00	1.02	1.04	1.06	1.09	1.09	1.10	1.10	1.11	1.12	1.13

(These figures are given as a basis for engineering calculations and represent average material as supplied.)



Part Number	Width	Thickness	Resistance at 68°F/20°C ohms/ft.	Weight lb./1000 ft.	Length ft./lb.	Nominal Spool Weight	Standard Spool Size Code
RES-105-101	1/64	0.0031	11.81	0.1581	6325	2	B
RES-105-102	1/64	0.0040	9.12	0.2046	4888	1	E
RES-105-103	1/64	0.0050	7.29	0.2559	3908	1.25	E
RES-105-104	1/64	0.0056	6.52	0.2865	3490	1.75	B
RES-105-105	1/64	0.0071	5.14	0.3626	2758	2	B
RES-105-106	1/64	0.0089	4.10	0.4555	2195	2.25	F
RES-105-107	1/32	0.0040	4.56	0.409	2445	2.25	F
RES-105-108	1/32	0.0045	4.05	0.4604	2172	2.25	F
RES-105-109	1/32	0.0050	3.64	0.5118	1954	4	G
RES-105-110	1/32	0.0056	3.26	0.573	1745	2.25	F
RES-105-111	1/32	0.0063	2.89	0.6442	1552	3	F
RES-105-112	1/32	0.0080	2.28	0.8181	1222	4	G
RES-105-113	1/32	0.010	1.82	1.0276	973.1	4	G
RES-105-134	1/32	0.011	1.66	1.1263	887.9	2.5	F
RES-105-114	1/16	0.0035	2.919	0.6494	1540	4	G
RES-105-115	1/16	0.0045	2.026	0.9208	1086	2	B
RES-105-116	1/16	0.0056	1.629	1.1461	872.5	8	D
RES-105-140	1/16	0.0063	1.446	1.2844	778.6	3	F
RES-105-117	1/16	0.0071	1.283	1.4524	688.5	3	F
RES-105-118	1/16	0.0080	1.140	1.6401	609.7	2.5	F
RES-105-119	1/16	0.0089	1.028	1.8179	550.1	1.25	E
RES-105-120	1/16	0.010	0.912	2.0452	488.9	4.5	G
RES-105-139	1/16	0.013	0.701	2.6577	376.3	2.5	F
RES-105-121	1/8	0.0035	1.352	1.298	770.4	4	G
RES-105-122	1/8	0.004	1.170	1.4835	674.1	1	E
RES-105-123	1/8	0.005	0.915	1.8549	539.1	4	G
RES-105-138	1/8	0.0056	0.805	2.0777	481.3	2.5	F
RES-105-124	1/8	0.0063	0.811	2.5787	387.8	3.5	G
RES-105-125	1/8	0.0071	0.720	2.9047	344.3	3	F
RES-105-126	1/8	0.008	0.639	3.2703	305.8	4	G
RES-105-137	1/8	0.0089	0.507	3.6358	275	3	F
RES-105-127	1/8	0.01	0.451	4.0903	244.5	4	G
RES-105-136	1/8	0.0113	0.399	4.4954	222.4	3.5	G
RES-105-135	1/8	0.0126	0.358	5.3154	188.1	3	F

All Items Available from Stock

Cross Reference Chart

Kanthal	Hoskins	Driver-Harris	Carpenter	Rescal	Calfine Wire	Harrison	Thyssen Krup VDM	MWS Wire	Jelliff	Molecu
Nikrothal 60	Chromel C	Nichrome	Tophet C	Resistohm 60	Stablohm 675	HAI-NiCr 60	Cronifer II	MWS-675	Alloy C	Electroloy
Nikrothal 80	Chromel A	Nichrome V	Tophet A	Resistohm 80	Stablohm 650	Nichrome V	Cronix 80	MWS-650	Alloy A	Protoloy
Kanthal D	Alloy 815	—	Alchrome DK	Resistohm 135	Stablohm 812	Alferon 901	Aluchrom 5	—	—	—

“D” Wire (Kanthal Wire or Equivalent)

Composition: 22% Chromium, 4.8% Aluminum, Fe balance
Specific Resistance: 812 Ohms / circ. mil foot @ 68°F / 20°C
Maximum continuous operating temperature: 2370°F / 1300°C
 (element temperature in air)

Melting Point: 1500°C / 2730°F
Density: (lbs / in³): 0.262
Resistance Tolerance: 17 ga. through 23 ga. ±3%, 24 ga. through 36 ga. ±5%, 37 ga. ±8%



Note: To obtain the working temperature resistance, multiply the factor by the room temperature resistance.

Temp. °F	68	212	392	752	1112	1292	1472	1652	1832	2012	2192
Temp. °C	20	100	200	400	600	700	800	900	1000	1100	1200
Factor	1.00	1.00	1.01	1.02	1.04	1.05	1.06	1.07	1.07	1.07	1.08

(These figures are given as a basis for engineering calculations and represent average material as supplied.)

Part Number	Gauge	Diameter	Resistance at 68°F/20°C ohms/ft.	Weight lb./1000 ft.	Length ft./lb.	Nominal Spool Weight	Standard Spool Size Code
RES-106-101	17	0.0450	0.396	5.07	197.2	10	D
RES-106-142	18	0.0400	0.500	4.01	249.4	10	D
RES-106-102	19	0.0360	0.630	3.18	314.5	5	C
RES-106-143	20	0.0320	0.793	2.53	395.3	1.75	C
RES-106-107	21	0.0285	1.00	2.01	497.5	8	D
RES-106-141	22	0.0253	1.27	1.58	632.9	6	C
RES-106-106	23	0.0226	1.59	1.26	793.7	35	—
RES-106-137	24	0.0201	2.01	1	1000	5	C
RES-106-109	25	0.0179	2.53	0.791	1264	5.5	C
RES-106-135	26	0.0159	3.21	0.624	1603	6	C
RES-106-136	27	0.0142	4.03	0.498	2008	5	C
RES-106-110	28	0.0126	5.11	0.392	2551	5	C
RES-106-103	29	0.0113	6.36	0.315	3175	4.25	C
RES-106-138	30	0.0100	8.12	0.247	4049	1.5	B
RES-106-111	31	0.0089	10.3	0.196	5102	1.5	B
RES-106-139	32	0.0080	12.7	0.158	6329	1.5	B
RES-106-105	33	0.0071	16.1	0.124	8065	4	C
RES-106-104	34	0.0063	20.5	0.098	10,204	5	C
RES-106-140	35	0.0056	25.9	0.0774	12,920	5	C
RES-106-112	37	0.0045	40.1	0.05	20,000	2	B

Ordering Information

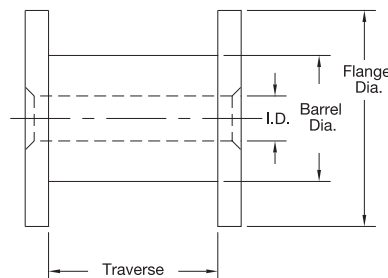
1. Specify the part number and quantity in lbs.
2. Only full spools are available; re-spooling of smaller quantities is not available.
3. Tempco reserves the right to change spool sizes as required.
4. Tempco reserves the right to ship ±10% of the stated spool weight.

All Items Available from Stock



Standard Spool Dimensions

Spool Code	Flange		Barrel		Traverse		Bore ID	
	in	mm	in	mm	in	mm	in	mm
A	2.5	63	1.75	44	3	76	.62	16
B	3	76	1.75	44	3	77	.62	16
C	5	127	3	76	3.5	89	.62	16
D	6	152	3.5	89	3.5	89	.62	16
E	3.15	80	2	51	2.5	63	.62	16
F	3.87	98	2.37	59	3.12	79	.62	16
G	4.92	125	3.1	79	3.93	100	.62	16



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