



## Electrical Resistance & Heating Alloys

JLC, an ISO 9001 certified company, is a leading manufacturer of Nickel based and other speciality ferrous/non-ferrous alloys in wire, strip and ribbon forms.

## VISION

- Always follow the needs of our customers.
- Continuous addition of new products to cover entire range of high-Nickel alloys.
- Continuous improvement of products and processes to reach the position of "Best in Class".

## ORIGIN

At JLC, we have been making Nickel and other speciality alloys since 1983. We started by melting pure Nickel for making Ni wires to be used in lead-in-wires for lamps. Today, foresight, diligence & self-innovation have increased our product range to more than one hundred different alloys, catering to many different industries. Focus on quality & customer needs has helped the JLC name to stand for global trustworthiness.

## WIDE PRODUCT RANGE

At JLC, we say, 'When You Think Speciality Alloys, Think JLC'. All our alloys are made from melting stage in state-of-the-art manufacturing facility.

## QUALITY CONTROL / R&D

JLC is an ISO 9001 certified company and adheres to fully documented QMS. New materials / technologies are continuously being developed at JLC. We have fully equipped in-house laboratories for testing of chemical, mechanical, metallurgical and electro-magnetic properties; backed by an experienced team of dedicated engineers.

## STRENGTHS

- World-class products at competitive/low prices and delivered on-time.
- Continuous improvement of our products, processes and systems.
- Skilled and highly trained manpower.
- Infrastructure and know-how to cater to the diverse and specific needs of our individual customers worldwide.

## JLC offers a full range of Electrical Resistance and Heating Alloys in wire, strip and ribbon forms.

ALLOYS	DESCRIPTION	APPLICATIONS
NiCr 80:20	NiCr 80:20 was one of the earliest developed electrical resistance and heating and resistance alloys. The high Cr content provides an exceptional resistance to oxidation. Depending on the furnace atmosphere, NiCr 80:20 can be used upto an element operating temperature of 1200°C. It is mainly used for applications where along with high oxidation resistance, wide temperature fluctuations are involved. NiCr 80:20 has a low Temperature Coefficient of Resistance. It can also be drawn to super fine sizes.	<ul style="list-style-type: none"> <li>▪ Electric furnaces</li> <li>▪ High-temperature enclosed elements</li> <li>▪ Potentiometers</li> <li>▪ Wire wound resistors</li> <li>▪ Domestic appliances</li> </ul>
NiCr 70:30	Commonly used for applications at high temperatures in oxidising atmosphere. The high Cr content of 30% provides it with excellent operating life in furnace applications. The alloy maintains excellent strength at higher temperatures. A desirable property of this alloy is that it can be used even in an alternating oxidising/reducing atmosphere. Maximum recommended element operating temperature is 1250 °C.	<ul style="list-style-type: none"> <li>▪ Electric furnaces with changing atmospheres</li> <li>▪ Night storage heaters</li> </ul>
NiCr 60:15	This alloy is 60%Ni, 15%Cr and balance Fe and long life additives. Due to the presence of Fe, this alloy can be used in carbonaceous and moist atmospheres and has higher resistance to atmospheric corrosion than NiCr alloys. It is used for heating elements of domestic appliances and other heating application where maximum element operating temperature will not exceed 1100 °C. It can also be drawn to super fine sizes.	<ul style="list-style-type: none"> <li>▪ Electric furnaces and heaters</li> <li>▪ Acid dipping baskets</li> <li>▪ Wire-mesh filters</li> <li>▪ Heavy duty resistors</li> <li>▪ Tubular heating elements</li> </ul>
NiCr 50:18	This alloy is 50%Ni, 18%Cr and balance Fe and long life additives. Maximum element operating temperature range is 1075 °C.	<ul style="list-style-type: none"> <li>▪ Domestic appliances</li> <li>▪ Night storage heaters</li> </ul>
NiCr 40:20	NiCr 40:20 is 37%Ni, 20%Cr, 2%Si and balance Fe and long life additives. This is widely used for domestic appliances where relatively lower temperatures are required. Maximum element operating temperature is 1050 °C. This alloy is suitable for use in carburizing and semi-reducing atmospheres.	<ul style="list-style-type: none"> <li>▪ Domestic appliances</li> <li>▪ Night storage heaters</li> <li>▪ Fan and convection heaters</li> </ul>
NiCr 30:20	Nominal composition of this alloy is 30%Ni, 20%Cr, 2% Si, balance Fe and long life additives. It maintains good strength at high temperatures. This alloy is suitable for use at relatively lower temperatures upto 1000 °C.	<ul style="list-style-type: none"> <li>▪ Electric furnaces</li> <li>▪ Domestic appliances</li> <li>▪ Resistors</li> </ul>
NiCr 20:25	This alloy is 20%Ni, 25%Cr, balance Fe and some Si. Similar to stainless steel, this alloy is used as heating element for temperatures upto 1000 °C.	<ul style="list-style-type: none"> <li>▪ Electric furnaces</li> </ul>
FeCrAl 125	This resistance alloys offers a high specific resistance but lower strength at high temperatures. It is economically preferable when operating temperatures are lower than 1050 °C. It is a ferromagnetic alloy.	<ul style="list-style-type: none"> <li>▪ Heating elements operating in air</li> <li>▪ Electric immersion heaters</li> </ul>
FeCrAl 135	Maximum element operating temperature for this alloy is 1280 °C. This alloy is resistant to carbonaceous atmosphere and it can be used in an oxidising atmosphere where sulphur is also present.	<ul style="list-style-type: none"> <li>▪ Hot plates</li> <li>▪ Irons</li> <li>▪ Electric furnaces</li> </ul>

### NOMINAL CHEMICAL COMPOSITION (weight %) - NiCr ALLOYS

Alloy	Ni	Cr	Fe	Si
NiCr 80:20	80	20	1 max	1.5 max
NiCr 70:30	70	30	1 max	1.5 max
NiCr 60:15	60	15	Balance	1.5 max
NiCr 50:18	50	18	Balance	1.5 max
NiCr 40:20	37	20	Balance	1.3 max
NiCr 30:20	30	20	Balance	1.0 max
NiCr 20:25	20	25	Balance	1.5 max

### NOMINAL CHEMICAL COMPOSITION (weight %) - FeCrAl ALLOYS

Alloy	Cr	Al	Fe	Other
FeCrAl 125	15	3 - 5	Balance	-
FeCrAl 135	20	4 - 6	Balance	-

### PHYSICAL PROPERTIES

Alloy	Density (g/cm <sup>3</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation (%)	Maximum Operating Temp. of Element (°C)	Specific Heat at 20 °C (J/Kg°C)	Coeff. of Linear Expansion 20 - 1000 °C (×10 <sup>-6</sup> /°C)
NiCr 80:20	8.41	630 - 1100	30	1200	435	17
NiCr 70:30	8.16	630 - 1100	25	1250	460	17
NiCr 60:15	8.25	630 - 1100	30	1100	450	17
NiCr 50:18	8.20	630 - 1100	30	1075	460	18
NiCr 40:20	7.95	630 - 1100	30	1050	460	19
NiCr 30:20	7.90	630 - 1100	30	1000	500	19
NiCr 20:25	7.80	630 - 1100	30	1000	500	17
FeCrAl 125	7.25	640 - 1500	16	1050	460	14
FeCrAl 135	7.20	640 - 1500	16	1280	460	14

### ELECTRICAL PROPERTIES

Alloy	Specific Resistance at 20°C (μΩ.cm)	Temp. Coefficient of Resistance (×10 <sup>-6</sup> /°C)	
		Value	Temp. Range
NiCr 80:20	108	60	20-1000 °C
NiCr 70:30	118	110	20-500 °C
NiCr 60:15	112	170	20-500 °C
NiCr 50:18	111	60	20-1000 °C
NiCr 40:20	105	60	20-1000 °C
NiCr 30:20	104	60	20-1000 °C
NiCr 20:25	95	60	20-1000 °C
FeCrAl 125	125	110	20-1000 °C
FeCrAl 135	137	70	20-1000 °C

To get the resistance/unit length at temperature, multiply by the factor K in the table below. These factors can be used with tables on following pages to find resistance/unit length at diff. Temperatures for each size

Alloy	20 °C	100 °C	200 °C	300 °C	400 °C	500 °C	600 °C	700 °C	800 °C	900 °C	1000 °C	1100 °C	1200 °C
NiCr 80:20	1.00	1.006	1.015	1.028	1.045	1.065	1.068	1.057	1.051	1.052	1.062	1.071	1.080
NiCr 70:30	1.00	1.010	1.020	1.033	1.047	1.052	1.050	1.045	1.046	1.054	1.060	1.063	1.066
NiCr 60:15	1.00	1.012	1.022	1.046	1.064	1.082	1.092	1.100	1.107	1.114	1.123	1.132	-
NiCr 50:18	1.00	1.015	1.034	1.052	1.071	1.089	1.108	1.127	1.143	1.155	1.165	1.175	-
NiCr 40:20	1.00	1.032	1.070	1.100	1.129	1.156	1.176	1.197	1.212	1.225	1.232	-	-
NiCr 30:20	1.00	1.030	1.067	1.100	1.125	1.154	1.173	1.192	1.212	1.231	1.250	-	-
NiCr 20:25	1.00	1.040	1.085	1.140	1.168	1.210	1.245	1.263	1.284	1.305	1.325	-	-

### WIRE DATA (METRIC)

Multiply the Table below by the Conversion Factor

NiCr 80:20	1.000	1.000
NiCr 70:30	1.092	0.970
NiCr 60:15	1.037	0.980
NiCr 50:18	0.028	0.975
NiCr 40:20	0.972	0.945
NiCr 30:20	0.963	0.939
NiCr 20:25	0.879	0.927

Diameter (mm)	Cross Sectional Area (mm <sup>2</sup> )	Resistance (Ω/m)	Weight (g/m)
12.0	113.04	0.010	950.89
10.0	78.50	0.014	660.34
8.0	50.24	0.021	422.62
7.0	38.47	0.028	323.57
6.0	28.26	0.038	237.72
5.5	23.75	0.045	199.75
5.0	19.63	0.055	165.09
4.5	15.90	0.068	133.72
4.0	12.56	0.086	105.65
3.8	11.04	0.098	92.86
3.5	9.62	0.112	80.89
3.3	8.29	0.130	69.75
3.0	7.07	0.153	59.43
2.8	6.15	0.175	51.77
2.6	5.31	0.204	44.64
2.4	4.52	0.239	38.04
2.2	3.80	0.284	31.96
2.0	3.14	0.344	26.41
1.8	2.54	0.425	21.40
1.6	2.01	0.537	16.90
1.4	1.54	0.702	12.94
1.2	1.13	0.955	9.51
1.0	0.78	1.376	6.60
0.9	0.64	1.699	5.35
0.8	0.50	2.150	4.23
0.7	0.38	2.808	3.24
0.6	0.28	3.822	2.38
0.5	0.20	5.503	1.65
0.40	0.13	8.599	1.06
0.30	0.0706	15.287	0.59
0.20	0.0314	34.395	0.26
0.10	0.0078	137.580	0.07
0.09	0.0064	169.851	0.05
0.08	0.0050	214.968	0.04
0.07	0.0038	280.775	0.03
0.06	0.0028	382.166	0.02
0.05	0.0020	550.318	0.02
0.04	0.0013	859.873	0.01
0.03	0.0007	1528.662	0.01

### WIRE DATA (AWG)

Multiply the Table below by the Conversion Factor

NiCr 80:20	1.000	1.000
NiCr 70:30	1.092	0.970
NiCr 60:15	1.037	0.980
NiCr 50:18	0.028	0.975
NiCr 40:20	0.972	0.945
NiCr 30:20	0.963	0.939
NiCr 20:25	0.879	0.927

AWG	Diameter (mm)	Diameter (in)	Cross Sectional Area (in <sup>2</sup> )	Resistance (Ω/ft)	Weight (lb/1000ft)
0	8.255	0.3250	0.0829	0.0062	301.98
1	7.341	0.2890	0.0656	0.0078	238.81
2	6.553	0.2580	0.0522	0.0098	190.29
3	5.817	0.2290	0.0412	0.0124	149.95
4	5.182	0.2040	0.0327	0.0156	119.00
5	4.623	0.1820	0.0260	0.0196	94.71
6	4.115	0.1620	0.0206	0.0248	75.04
7	3.658	0.1440	0.0163	0.0313	59.30
8	3.251	0.1280	0.0129	0.0397	46.84
9	2.896	0.1140	0.0102	0.0500	37.17
10	2.591	0.1020	0.0082	0.0625	29.75
11	2.311	0.0910	0.0065	0.0785	23.67
12	2.057	0.0810	0.0051	0.0991	18.75
13	1.829	0.0720	0.0041	0.1254	14.82
14	1.626	0.0640	0.0032	0.1586	11.72
15	1.448	0.0570	0.0026	0.2000	9.29
16	1.295	0.0510	0.0020	0.2501	7.43
17	1.143	0.0450	0.0016	0.3210	5.79
18	1.016	0.0400	0.0013	0.4062	4.57
19	0.914	0.0360	0.0010	0.5020	3.70
20	0.813	0.0320	0.0008	0.6344	2.93
21	0.724	0.0285	0.0006	0.8000	2.32
22	0.643	0.0253	0.000503	1.014	1.83
23	0.574	0.0226	0.000401	1.273	1.46
24	0.511	0.0201	0.000318	1.606	1.16
25	0.455	0.0179	0.000252	2.026	0.92
26	0.404	0.0159	0.000199	2.569	0.72
27	0.361	0.0142	0.000159	3.218	0.58
28	0.320	0.0126	0.000125	4.095	0.45
29	0.287	0.0113	0.000100	5.091	0.37
30	0.254	0.0100	0.000078	6.500	0.29
31	0.226	0.0089	0.000062	8.210	0.23
32	0.203	0.0080	0.000050	10.176	0.18
33	0.180	0.0071	0.000039	12.943	0.14
34	0.160	0.0063	0.000031	16.381	0.113
35	0.142	0.0056	0.000025	20.797	0.089
36	0.127	0.0050	0.000020	25.999	0.071
37	0.114	0.0045	0.000016	32.267	0.058
38	0.102	0.0040	0.000013	40.306	0.046
39	0.0889	0.0035	9.62E-06	53.060	0.035
40	0.0787	0.0031	7.54E-06	67.705	0.027
-	0.0711	0.0028	6.15E-06	82.953	0.022
-	0.0610	0.0024	4.53E-06	112.696	0.016
-	0.0508	0.0020	3.14E-06	162.496	0.011
-	0.0406	0.0016	2.01E-06	254.400	0.0073
-	0.0356	0.0014	1.54E-06	330.880	0.0056
-	0.0305	0.0012	1.13E-06	450.786	0.0041
-	0.0280	0.0011	9.54E-07	534.877	0.0035
-	0.0250	0.0010	7.60E-07	670.950	0.0028



## STRIP DATA

Multiply the Table below by the Conversion Factor

NiCr 80:20	1.000	1.000	NiCr 80:20	1.000	1.000	NiCr 80:20	1.000	1.000
NiCr 70:30	1.092	0.970	NiCr 70:30	1.092	0.970	NiCr 70:30	1.092	0.970
NiCr 60:15	1.037	0.980	NiCr 60:15	1.037	0.980	NiCr 60:15	1.037	0.980
NiCr 50:18	0.028	0.975	NiCr 50:18	0.028	0.975	NiCr 50:18	0.028	0.975
NiCr 40:20	0.972	0.945	NiCr 40:20	0.972	0.945	NiCr 40:20	0.972	0.945
NiCr 30:20	0.963	0.939	NiCr 30:20	0.963	0.939	NiCr 30:20	0.963	0.939
NiCr 20:25	0.879	0.927	NiCr 20:25	0.879	0.927	NiCr 20:25	0.879	0.927

Size (mm)	Cross Sectional Area (mm <sup>2</sup> )	Resistance (Ω/m)	Weight (g/m)
80 x 3.2	256.00	0.0042	2153.5
3.0	240.00	0.0045	2018.9
2.0	160.00	0.0068	1345.9
1.5	120.00	0.0090	1009.4
1.2	96.00	0.0113	807.6
1.0	80.00	0.0135	673.0
0.8	64.00	0.0169	538.4
0.5	40.00	0.0270	336.5
70 x 3.2	224.00	0.0048	1884.3
3.0	210.00	0.0051	1766.5
2.0	140.00	0.0077	1177.7
1.5	105.00	0.0103	883.3
1.2	84.00	0.0129	706.6
1.0	70.00	0.0154	588.8
0.8	56.00	0.0193	471.1
0.5	35.00	0.0309	294.4
50 x 3.2	160.00	0.0068	1345.9
3.0	150.00	0.0072	1261.8
2.0	100.00	0.0108	841.2
1.5	75.00	0.0144	630.9
1.2	60.00	0.0180	504.7
1.0	50.00	0.0216	420.6
0.8	40.00	0.0270	336.5
0.5	25.00	0.0432	210.3
40 x 3.2	128.00	0.0084	1076.7
3.0	120.00	0.0090	1009.4
2.0	80.00	0.0135	673.0
1.5	60.00	0.0180	504.7
1.2	48.00	0.0225	403.8
1.0	40.00	0.0270	336.5
0.8	32.00	0.0338	269.2
0.5	20.00	0.0540	168.2

Size (mm)	Cross Sectional Area (mm <sup>2</sup> )	Resistance (Ω/m)	Weight (g/m)
30 x 3.2	96.00	0.0113	807.6
3.0	90.00	0.0120	757.1
2.0	60.00	0.0180	504.7
1.5	45.00	0.0240	378.5
1.2	36.00	0.0300	302.8
1.0	30.00	0.0360	252.4
0.8	24.00	0.0450	201.9
0.5	15.00	0.0720	126.2
25 x 3.2	80.00	0.0135	673.0
3.0	75.00	0.0144	630.9
2.0	50.00	0.0216	420.6
1.5	37.50	0.0288	315.5
1.2	30.00	0.0360	252.4
1.0	25.00	0.0432	210.3
0.8	20.00	0.0540	168.2
0.5	12.50	0.0864	105.2
20 x 3.2	64.00	0.0169	538.4
3.0	60.00	0.0180	504.7
2.0	40.00	0.0270	336.5
1.5	30.00	0.0360	252.4
1.2	24.00	0.0450	201.9
1.0	20.00	0.0540	168.2
0.8	16.00	0.0675	134.6
0.5	10.00	0.1080	84.1
15 x 3.2	48.00	0.0225	403.8
3.0	15.00	0.0720	126.2
2.0	10.00	0.1080	84.1
1.5	7.50	0.1440	63.1
1.2	6.00	0.1800	50.5
1.0	5.00	0.2160	42.1
0.8	4.00	0.2700	33.6
0.5	2.50	0.4320	21.0

Size (mm)	Cross Sectional Area (mm <sup>2</sup> )	Resistance (Ω/m)	Weight (g/m)
12 x 3.2	38.40	0.0281	323.0
3.0	36.00	0.0300	302.8
2.0	24.00	0.0450	201.9
1.5	18.00	0.0600	151.4
1.2	14.40	0.0750	121.1
1.0	12.00	0.0900	100.9
0.8	9.60	0.1125	80.8
0.5	6.00	0.1800	50.5
10 x 3.2	32.00	0.0338	269.2
3.0	30.00	0.0360	252.4
2.0	20.00	0.0540	168.2
1.5	15.00	0.0720	126.2
1.2	12.00	0.0900	100.9
1.0	10.00	0.1080	84.1
0.8	8.00	0.1350	67.3
0.5	5.00	0.2160	42.1
8 x 3.2	25.60	0.0422	215.3
3.0	24.00	0.0450	201.9
2.0	16.00	0.0675	134.6
1.5	12.00	0.0900	100.9
1.2	9.60	0.1125	80.8
1.0	8.00	0.1350	67.3
0.8	6.40	0.1688	53.8
0.5	4.00	0.2700	33.6



## RIBBON DATA

Multiply the Table below by the Conversion Factor

NiCr 80:20	1.000	1.000
NiCr 70:30	1.092	0.970
NiCr 60:15	1.037	0.980
NiCr 50:18	0.028	0.975
NiCr 40:20	0.972	0.945
NiCr 30:20	0.963	0.939
NiCr 20:25	0.879	0.927

NiCr 80:20	1.000	1.000
NiCr 70:30	1.092	0.970
NiCr 60:15	1.037	0.980
NiCr 50:18	0.028	0.975
NiCr 40:20	0.972	0.945
NiCr 30:20	0.963	0.939
NiCr 20:25	0.879	0.927

Diameter (mm)	Cross Sectional Area (mm <sup>2</sup> )	Resistance (Ω/m)	Weight (g/m)
5 x 2.00	9.40	0.115	79.07
1.80	8.46	0.128	71.17
1.50	7.05	0.153	59.30
1.20	5.64	0.191	47.44
1.00	4.70	0.230	39.54
0.80	3.76	0.287	31.63
0.70	3.29	0.328	27.68
0.60	2.82	0.383	23.72
0.50	2.35	0.460	19.77
0.40	1.88	0.574	15.81
0.30	1.41	0.766	11.86
0.20	0.94	1.149	7.91
0.15	0.71	1.532	5.93
0.10	0.47	2.298	3.95
4 x 1.20	4.51	0.239	37.95
1.00	3.76	0.287	31.63
0.80	3.01	0.359	25.30
0.70	2.63	0.410	22.14
0.60	2.26	0.479	18.98
0.50	1.88	0.574	15.81
0.40	1.50	0.718	12.65
0.30	1.13	0.957	9.49
0.25	0.94	1.149	7.91
0.20	0.75	1.436	6.33
0.15	0.56	1.915	4.74
0.12	0.45	2.394	3.80
0.10	0.38	2.872	3.16
3 x 1.00	2.82	0.383	23.72
0.80	2.26	0.479	18.98
0.60	1.69	0.638	14.23
0.50	1.41	0.766	11.86
0.40	1.13	0.957	9.49
0.30	0.85	1.277	7.12
0.25	0.71	1.532	5.93
0.20	0.56	1.915	4.74
0.15	0.42	2.553	3.56
0.12	0.34	3.191	2.85
0.10	0.28	3.830	2.37

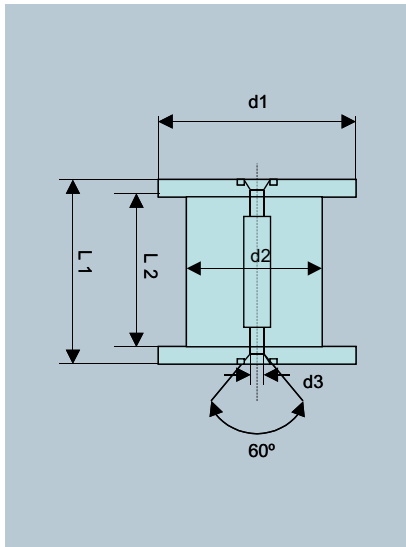
Diameter (mm)	Cross Sectional Area (mm <sup>2</sup> )	Resistance (Ω/m)	Weight (g/m)
2.5 x 0.80	1.88	0.574	15.81
0.60	1.41	0.766	11.86
0.50	1.18	0.919	9.88
0.40	0.94	1.149	7.91
0.30	0.71	1.532	5.93
0.25	0.59	1.838	4.94
0.20	0.47	2.298	3.95
0.15	0.35	3.064	2.97
0.12	0.28	3.830	2.37
0.10	0.24	4.596	1.98
2 x 0.50	0.94	1.149	7.91
0.40	0.75	1.436	6.33
0.30	0.56	1.915	4.74
0.25	0.47	2.298	3.95
0.20	0.38	2.872	3.16
0.15	0.28	3.830	2.37
0.12	0.23	4.787	1.90
0.10	0.19	5.745	1.58
1.5 x 0.50	0.71	1.532	5.93
0.40	0.56	1.915	4.74
0.30	0.42	2.553	3.56
0.25	0.35	3.064	2.97
0.20	0.28	3.830	2.37
0.15	0.21	5.106	1.78
0.12	0.17	6.383	1.42
0.10	0.14	7.660	1.19
1.2 x 0.40	0.45	2.394	3.80
0.30	0.34	3.191	2.85
0.25	0.28	3.830	2.37
0.20	0.23	4.787	1.90
0.15	0.17	6.383	1.42
0.12	0.14	7.979	1.14
0.10	0.11	9.574	0.95
1.0 x 0.40	0.38	2.872	3.16
0.30	0.28	3.830	2.37
0.25	0.24	4.596	1.98
0.20	0.19	5.745	1.58
0.15	0.14	7.660	1.19
0.12	0.11	9.574	0.95
0.10	0.09	11.489	0.79

**Note:** For ribbons with width < 6.35 mm, resistance and weight are calculated with the cross sectional area 6% less than that of a true rectangle to take into effect the roundness of the edges.



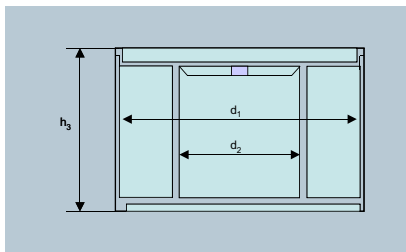
## DELIVERY / PACKAGING

**WIRE:** Wire diameter < 1.5 mm is supplied on spools or in pail packs on request. Only one length of wire is wound on a spool or packed in a pail. Wire diameter > 1.50 mm is supplied in coils with an inside diameter of 250 - 600 mm.



Spool Size (DIN)	Wire Diameter (mm)	Net Weight (kg)	Measurements (mm)				
			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	L <sub>1</sub>	L <sub>2</sub>
K 63	≤0.10	0.30	63	40	11	63	49
K 80	0.1 - 0.15	0.80	80	50	16	80	64
K 100	0.16 - 0.20	1.50	100	63	16	100	80
K 125	0.20 - 0.35	3.50	125	80	16	125	100
K 160	0.36 - 0.80	7.00	160	100	22	160	128
K 200	0.81 - 1.20	14.00	200	125	22	200	160
K 250	0.81 - 1.50	24.00	250	160	22	200	160
K 355	0.81 - 1.50	40.00	355	224	36	200	160
400 Flange*	0.81 - 1.60	100.00	400	190	37	250	190
500 Flange*	0.80 - 1.60	200.00	500	315	37	250	180

\* Not standard DIN Size



Pail Pack (DIN 46396)	Wire Diameter (mm)	Net Weight (kg)	Measurements (mm)		
			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>
1	0.40 - 0.60	40 - 50	500	300	250
2	0.30 - 0.60	20 - 30	315	200	355
3	0.30 - 0.60	20 - 30	355	255	280

**STRIP:** Strips are supplied in coils with an inside diameter of 300 - 400 mm.

**RIBBON / FLAT WIRE:** Ribbon or flat wire is mainly supplied on DIN 100 and 125 spools. Other spool sizes are also available on request.

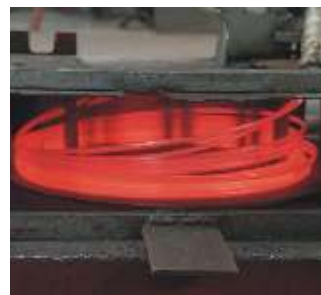
## PRODUCTION PROCESS FLOW



Raw Materials



Melting



Hot Rolling



Batch Annealing



Wire Drawing



Die Polishing



Continuous Annealing



Testing

# JLC PRODUCT RANGE

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NICKEL ALLOYS

NICKEL - COPPER ALLOYS

NICKEL - CHROME - IRON ALLOYS

NICKEL - IRON SOFT MAGNETIC ALLOYS

NICKEL ALLOYS FOR WELDING

NICKEL PLATED WIRES

ELECTRICAL RESISTANCE AND HEATING ALLOYS

GLASS SEALING AND CONTROLLED EXPANSION ALLOYS

THERMOCOUPLE, COMPENSATING AND EXTENSION GRADE ALLOYS

LAMP COMPONENTS AND ALLOYS

DUMET WIRES

SPARK PLUG ALLOYS

ALLOYS FOR RESISTORS, SHUNTS AND RHEOSTATS

CLAD WIRES



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