

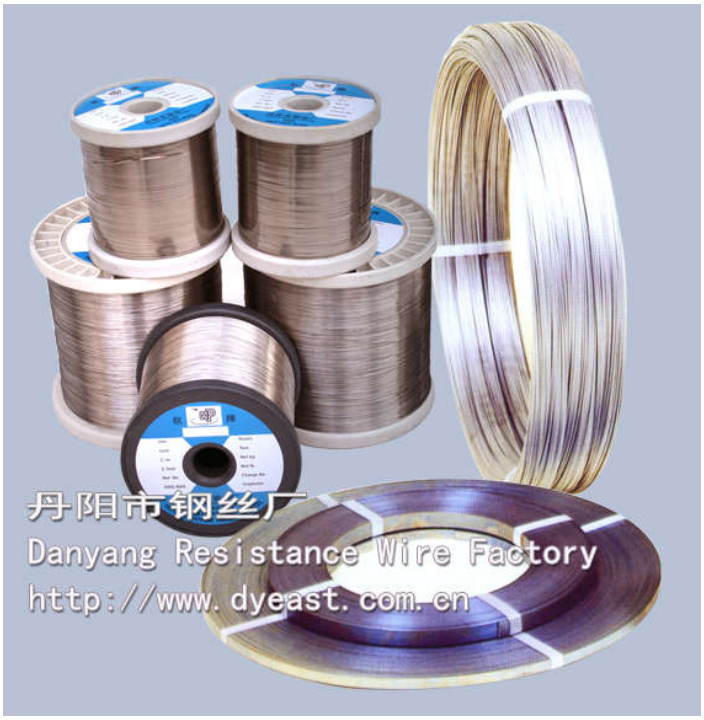
Jiangsu Heyi Electric Heating Material Co., Ltd

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Company Profiles

Jiangsu Heyi Electric Heating Material Co., Ltd(Former name: Danyang Resistance Wire Factory) is an expert manufacturer of heating resistance wires and ribbons in China. The company locates in a beautiful town in Jiangsu province, China. The company enjoys good traffic conditions. Recent years Jiangsu Heyi Electric Heating Material Co., Ltd has got the honor of AAA Company of High Credit in Jiangsu Province, Star Enterprise in Zhenjiang etc. And the company passed ISO9001:2015 Quality System Certification.

Jiangsu Heyi Electric Heating Material Co., Ltd was established in 1990 and it became one of the best manufacturer specializing in manufacturing high resistance heating wires and ribbons, spiral heating elements, stranded nichrome wires after 30 years development in China. The company has built a complete and mature electric alloy production process: from the smelting, electroslag refining, drawing, heat treatment to finish products. Now the main products cover full ranges of Ferro-Chrome-Aluminum series, Nickel-Chrome and Nickel-Chrome-Iron series, Copper-Nickel alloys. And with chemical analysis department, the physical inspection department, service department, the company treats the products quality as the lifeblood of enterprises: from the raw materials procurement, the finished products inspection to final product quality tracking, comprehensive monitoring product quality. So far our annual output reaches 1500 tons and the export to Europe, America and Asia countries shares about 50%. The products apply to chemical industry, metallurgy mechanism, glass industry, ceramic industry, home appliance area widely.



Main characteristics of Ni-Cr and Ni-Cr-Fe high resistance electrical heating alloys

Properties \ Alloy Name		Cr20Ni80	Cr30Ni70	Cr15Ni60	Cr20Ni35	Cr20Ni30
Main Chemical composition	Ni	Rest	Rest	55.0-61.0	34.0-37.0	30.0-34.0
	Cr	20.0-23.0	28.0-31.0	15.0-18.0	18.0-21.0	18.0-21.0
	Fe	≤1.0	≤1.0	Rest	Rest	Rest
Max. Continuous service temp. (ºC)		1200	1250	1150	1100	1100
Melting point (approx.)(ºC)		1400	1380	1390	1390	1390
Resistivity at 20ºC (μΩ·m)		1.09±0.05	1.18±0.05	1.12±0.05	1.04±0.05	1.04±0.05
Density (g/cm^3)		8.40	8.10	8.20	7.90	7.90
Thermal conductivity (KJ/m·h·ºC)		60.3	45.2	45.2	43.8	43.8
Specific heat volume (J/g·K)		0.440	0.461	0.494	0.50	0.50
Coefficient of linear expansion(20~1000 ºC) (10^{-6}/K)		18.0	17.0	17.0	19.0	19.0
Tensile strength (R_m/MPa)		≥650	≥650	≥600	≥600	≥600
Elongation at rupture (%)	0.1-3.0mm	≥20	≥20	≥20	≥20	≥20
	>3.0mm	≥25	≥25	≥25	≥25	≥25
Accelerated life test	Temp. (ºC)	1200	1250	1150	1100	1100
	Value (h)	≥80	≥50	≥80	≥80	≥80
Bending test (F/R)		≥12	≥12	≥12	≥12	≥12
Micrographic structure		Austenite	Austenite	Austenite	Austenite	Austenite

Ni-Cr alloy wires with their diameters and characteristics

Diameter (mm)	Cr20Ni80			Cr30Ni70		
	Resistivity (μΩ· m 1.09~1.14±0.05)			Resistivity (μΩ· m 1.18~1.20±0.05)		
	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)
0.03	1542.0	168418	0.00594	1669.4	174656	0.00573
0.04	867.40	94735	0.01056	939.01	98244	0.01018
0.05	555.13	60631	0.01649	600.97	62876	0.01590
0.06	385.51	42105	0.02375	417.34	43664	0.02290
0.07	283.23	30934	0.03233	306.62	32080	0.03117
0.08	216.85	23684	0.04222	234.75	24561	0.04072
0.09	171.34	18713	0.05344	185.48	19406	0.05153
0.10	138.78	15158	0.06597	150.24	15719	0.06362
0.12	96.377	10526	0.09500	104.335	10916	0.09161
0.15	61.681	6736.7	0.1484	66.774	6986.2	0.1431
0.20	34.696	3789.4	0.2639	37.561	3929.8	0.2545
0.25	22.205	2425.2	0.4123	24.039	2515.0	0.3976
0.30	15.420	1684.2	0.5938	16.694	1746.6	0.5726
0.35	11.329	1237.4	0.8082	12.265	1283.2	0.7793
0.40	8.6740	947.35	1.0556	9.3901	982.44	1.0179
0.45	6.8535	748.52	1.3360	7.4194	776.25	1.2882
0.50	5.7550	606.31	1.6493	6.1116	628.76	1.5904
0.60	3.9966	421.05	2.3750	4.2441	436.64	2.2902
0.70	2.9362	309.34	3.2327	3.1181	320.80	3.1172
0.80	2.2481	236.84	4.2223	2.3873	245.61	4.0715
0.90	1.7762	187.13	5.3438	1.8863	194.06	5.1530
1.00	1.4388	151.58	6.5973	1.5279	157.19	6.3617
1.20	0.9991	105.26	9.5002	1.0610	109.16	9.1609
1.40	0.7341	77.335	12.931	0.7795	80.199	12.469
1.60	0.5620	59.209	16.889	0.5968	61.402	16.286
1.80	0.4441	46.783	21.375	0.4716	48.515	20.612
2.00	0.3597	37.894	26.389	0.3820	39.298	25.447
2.50	0.2302	24.252	41.233	0.2445	25.150	39.761
3.00	0.1599	16.842	59.376	0.1698	17.466	57.255
3.50	0.1185	12.374	80.817	0.1247	12.832	77.931
4.00	0.0907	9.474	105.56	0.0955	9.824	101.79
4.50	0.0717	7.485	133.60	0.0755	7.762	128.82
5.00	0.0581	6.063	164.93	0.0611	6.288	159.04
5.50	0.0480	5.011	199.57	0.0505	5.196	192.44
6.00	0.0403	4.210	237.50	0.0424	4.366	229.02
6.50	0.0344	3.588	278.74	0.0362	3.720	268.78
7.00	0.0296	3.093	323.27	0.0312	3.208	311.72
8.00	0.0227	2.368	422.23	0.0239	2.456	407.15
9.00	0.0179	1.871	534.38	0.0189	1.941	515.30
10.00	0.0145	1.516	659.73	0.0153	1.572	636.17

Ni-Cr-Fe alloy wires with their diameters and characteristics

Diameter (mm)	Cr15Ni60			Cr20Ni30,Cr20Ni35		
	Resistivity (μΩ· m 1.12~1.15±0.05)			Resistivity (μΩ· m 1.04±0.05)		
	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)
0.03	1584.5	172526	0.00580	1471.3	179077	0.00558
0.04	891.27	97046	0.01030	827.61	100731	0.00993
0.05	570.41	62109	0.01610	529.67	64468	0.01551
0.06	396.12	43131	0.02318	367.83	44769	0.02234
0.07	291.03	31688	0.03156	270.24	32892	0.03040
0.08	222.82	24261	0.04122	206.90	25183	0.03971
0.09	176.05	19170	0.05217	163.48	19897	0.05026
0.10	142.60	15527	0.06440	132.42	16117	0.06205
0.12	99.030	10783	0.09274	91.956	11192	0.08935
0.15	63.379	6901.0	0.1449	58.852	7163.1	0.1396
0.20	35.651	3881.8	0.2576	33.104	4029.2	0.2482
0.25	22.816	2484.4	0.4025	21.187	2578.7	0.3878
0.30	15.845	1725.3	0.5796	14.713	1790.8	0.5584
0.35	11.641	1267.5	0.7889	10.810	1315.7	0.7601
0.40	8.9127	970.46	1.0304	8.2761	1007.31	0.9927
0.45	7.0421	766.78	1.3042	6.5391	795.90	1.2564
0.50	5.8569	621.09	1.6101	5.2967	644.68	1.5512
0.60	4.0673	431.31	2.3185	3.6783	447.69	2.2337
0.70	2.9882	316.88	3.1557	2.7024	328.92	3.0403
0.80	2.2879	242.61	4.1218	2.0690	251.83	3.9710
0.90	1.8077	191.70	5.2166	1.6348	198.97	5.0258
1.00	1.4642	155.27	6.4403	1.3242	161.17	6.2046
1.20	1.0168	107.83	9.2740	0.9196	111.92	8.9347
1.40	0.7471	79.221	12.623	0.6756	82.229	12.161
1.60	0.5720	60.654	16.487	0.5173	62.957	15.884
1.80	0.4519	47.924	20.866	0.4087	49.744	20.103
2.00	0.3661	38.818	25.761	0.3310	40.292	24.819
2.50	0.2343	24.844	40.252	0.2119	25.787	38.779
3.00	0.1627	17.253	57.962	0.1471	17.908	55.842
3.50	0.1195	12.675	78.893	0.1081	13.157	76.007
4.00	0.0915	9.705	103.04	0.0828	10.073	99.27
4.50	0.0723	7.668	130.42	0.0654	7.959	125.64
5.00	0.0586	6.211	161.01	0.0530	6.447	155.12
5.50	0.0484	5.133	194.82	0.0438	5.328	187.69
6.00	0.0407	4.313	231.85	0.0368	4.477	223.37
6.50	0.0347	3.675	272.10	0.0313	3.815	262.15
7.00	0.0299	3.169	315.57	0.0270	3.289	304.03
8.00	0.0229	2.426	412.18	0.0207	2.518	397.10
9.00	0.0181	1.917	521.66	0.0163	1.990	502.58
10.00	0.0146	1.553	644.03	0.0132	1.612	620.46

Ni-Cr & Ni-Cr-Fe ribbons with their specification and characteristics(1)

Width× thickness (mm)	Cross sectional area(mm^2)	Cr20Ni80			Cr15Ni60		
		Resistivity (1.09~1.14±0.05μΩ·m)			Resistivity (1.11~1.15±0.05μΩ·m)		
		Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)
0.08×0.2	0.0152	71.71	7832	0.000128	73.03	8023	0.000125
0.4	0.0304	35.86	3916	0.000255	36.51	4012	0.000249
0.6	0.0456	23.90	2611	0.000383	24.34	2674	0.000374
0.8	0.0608	17.93	1958	0.000511	18.26	2006	0.000499
1.0	0.0760	14.87	1567	0.000638	45.00	1605	0.000623
1.5	0.114	9.912	1044	0.000958	10.00	1070	0.000935
0.1×0.2	0.0190	57.37	6266	0.000160	58..42	6418	0.000156
0.4	0.0380	28.68	3133	0.000319	29.21	3209	0.000312
0.6	0.0570	19.12	2089	0.000479	19.47	2139	0.000467
0.8	0.0760	14.34	1566	0.000638	14.61	1605	0.000623
1.0	0.0950	11.89	1253	0.000798	12.00	1284	0.000779
1.5	0.143	7.902	833	0.00120	7.97	853	0.00117
2.0	0.190	5.947	627	0.00160	6.00	642	0.00156
0.15×0.2	0.0285	38.25	4184	0.000239	38.95	4279	0.000234
0.4	0.0570	19.12	2089	0.000479	19.47	2139	0.000467
0.6	0.0855	12.75	1392	0.000718	12.98	1426	0.000701
0.8	0.114	9.561	1044	0.000958	9.74	1070	0.000935
1.0	0.143	7.902	833	0.00120	7.97	853	0.00117
1.5	0.214	5.280	556	0.00180	5.33	570	0.00175
2.0	0.285	3.965	418	0.00239	4.00	428	0.00234
0.2×0.4	0.0760	14.34	1567	0.000638	14.61	1605	0.000623
0.6	0.114	9.561	1044	0.000958	9.74	1070	0.000935
0.8	0.152	7.171	783	0.00128	7.30	802	0.00125
1.0	0.190	5.947	627	0.00160	6.00	642	0.00156
1.5	0.285	3.965	418	0.00239	4.00	428	0.00234
2.0	0.380	2.974	313	0.00319	3.00	321	0.00312
3.0	0.570	1.982	209	0.00479	2.00	214	0.00467
0.4×0.6	0.228	4.781	522	0.00192	4.87	535	0.00187
0.8	0.304	3.586	392	0.00255	3.65	401	0.00249
1.0	0.380	2.974	313	0.00319	3.00	321	0.00312
1.5	0.570	1.982	209	0.00479	2.00	214	0.00467
2.0	0.760	1.487	157	0.00638	1.50	161	0.00623
3.0	1.140	0.991	104	0.00958	1.00	107	0.00935
4.0	1.520	0.750	78.3	0.01277	0.757	80.2	0.0125
0.6×0.8	0.456	2.390	261	0.00383	2.43	267	0.00374
1.0	0.570	1.982	209	0.00479	2.00	214	0.00467
1.5	0.855	1.322	139	0.00718	1.33	143	0.00701
2.0	1.140	0.991	104	0.00958	1.00	107	0.00935
3.0	1.71	0.661	69.6	0.01436	0.667	71.3	0.0140
4.0	2.28	0.500	52.2	0.01915	0.504	53.5	0.0187
0.8×1.0	0.760	1.487	157	0.0638	1.50	161	0.00623
1.5	1.140	0.991	104	0.00958	1.00	107	0.00935
2.0	1.520	0.743	78.3	0.01277	0.750	80.2	0.0125
3.0	2.28	0.496	52.2	0.01915	0.500	53.5	0.0187
4.0	3.04	0.375	39.2	0.02554	0.378	40.1	0.0249
1.0×1.5	1.425	0.793	83.5	0.01197	0.800	85.6	0.0117
2.0	1.90	0.595	62.7	0.01596	0.600	64.2	0.0156
3.0	2.85	0.396	41.8	0.02394	0.400	42.8	0.0234
4.0	3.80	0.300	31.3	0.03192	0.303	32.1	0.0312

Ni-Cr & Ni-Cr-Fe ribbons with their specification and characteristics(2)

Width× thickness (mm)	Cross sectional area(mm^2)	Cr20Ni80			Cr15Ni60		
		Resistivity (1.09~1.14±0.05μΩ·m)			Resistivity (1.11~1.15±0.05μΩ·m)		
		Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)
10×0.5	4.90	0.222	24.30	0.04116	0.2265	24.89	0.04018
0.8	7.84	0.139	15.18	0.06586	0.1416	15.56	0.06429
1.0	9.80	0.115	12.15	0.08232	0.1163	12.44	0.08036
1.2	11.76	0.0961	10.12	0.09878	0.0969	10.37	0.09643
1.5	14.70	0.0769	8.10	0.1235	0.0776	8.30	0.1205
2.0	19.60	0.0577	6.08	0.1646	0.0582	6.22	0.1607
15×0.8	11.76	0.0927	10.12	0.09878	0.0944	10.37	0.09643
1.0	14.70	0.0769	8.10	0.1235	0.0776	8.30	0.1205
1.2	17.64	0.0641	6.75	0.1482	0.0646	6.91	0.1446
1.5	22.05	0.0512	5.40	0.1852	0.0517	5.53	0.1808
2.0	29.40	0.0384	4.05	0.2470	0.0388	4.15	0.2411
2.5	36.75	0.0307	3.24	0.3087	0.0310	3.32	0.3014
20×0.8	15.68	0.0695	7.59	0.1317	0.0708	7.78	0.1286
1.0	19.60	0.0577	6.07	0.1646	0.0582	6.22	0.1607
1.2	23.52	0.0480	5.06	0.1976	0.0485	5.18	0.1929
1.5	29.40	0.0384	4.05	0.2470	0.0388	4.15	0.2411
2.0	39.20	0.0288	3.04	0.3293	0.0291	3.11	0.3214
2.5	49.00	0.0231	2.43	0.4116	0.0233	2.49	0.4018
3.0	58.80	0.0192	2.02	0.4939	0.0194	2.07	0.4822
25×1.0	24.50	0.0461	4.86	0.2058	0.0465	4.98	0.2009
1.2	29.40	0.0384	4.05	0.2470	0.0388	4.15	0.2411
1.5	36.75	0.0307	3.24	0.3087	0.0310	3.32	0.3014
2.0	49.00	0.0231	2.43	0.4116	0.0233	2.49	0.4018
2.5	61.25	0.0184	1.94	0.5145	0.0186	1.99	0.5023
3.0	73.50	0.0154	1.62	0.6174	0.0155	1.66	0.6027
30×1.0	29.40	0.0384	4.05	0.2470	0.0388	4.15	0.2411
1.2	35.28	0.0320	3.37	0.2964	0.0323	3.46	0.2893
1.5	44.10	0.0256	2.70	0.3704	0.0259	2.77	0.3616
2.0	58.80	0.0192	2.02	0.4939	0.0194	2.07	0.4822
2.5	73.50	0.0154	1.62	0.6174	0.0155	1.66	0.6027
3.0	88.20	0.0128	1.35	0.7409	0.0129	1.38	0.7232
3.5	102.9	0.0111	1.16	0.8644	0.0112	1.19	0.8238
35×1.0	34.30	0.0329	3.47	0.2881	0.0332	3.56	0.2813
1.5	51.45	0.0220	2.31	0.4322	0.0222	2.37	0.4219
2.0	68.60	0.0165	1.74	0.5762	0.0166	1.78	0.5625
2.5	85.75	0.0132	1.39	0.7203	0.0133	1.42	0.7032
3.0	102.9	0.0110	1.16	0.8644	0.0111	1.19	0.8438
3.5	120.1	0.0095	0.99	1.0088	0.0096	1.02	0.9848
40×1.0	39.2	0.0288	3.04	0.3293	0.0291	3.11	0.3214
1.5	58.80	0.0192	2.02	0.4939	0.0194	2.07	0.4822
2.0	78.40	0.0144	1.52	0.6586	0.0145	1.56	0.6429
2.5	98.00	0.0115	1.21	0.8232	0.0116	1.24	0.8036
3.0	117.6	0.0096	1.01	0.9878	0.0097	1.04	0.9643
3.5	137.2	0.0083	0.87	1.1525	0.0084	0.89	1.1250
4.0	156.8	0.0073	0.76	1.3171	0.0073	0.78	1.2858

Main characteristics of Fe-Cr-Al high resistance electrical heating alloys

Properties \ Alloy Name		1Cr13Al4	0Cr25Al5	0Cr23Al5	0Cr20Al3	0Cr21Al6Nb	0Cr27Al7Mo2
Main Chemical Composition	Cr	12.0-15.0	23.0-26.0	20.5-23.5	18.0-21.0	21.0-23.0	26.5-27.8
	Al	4.0-6.0	4.5-6.5	4.2-5.3	3.0-4.2	5.0-7.0	6.0-7.0
	Re	opportune	opportune	opportune	opportune	opportune	opportune
	Fe	Rest	Rest	Rest	Rest	Rest	Rest
						Nb0.5	Mo1.8-2.2
Max. Continuous service temp. (ºC)		950	1250	1250	1100	1350	1400
Melting point (approx.)(ºC)		1450	1500	1500	1500	1510	1520
Resistivity at 20ºC (μΩ·m)		1.25±0.08	1.42±0.07	1.35±0.06	1.23±0.07	1.45±0.07	1.53±0.07
Density (g/cm^3)		7.40	7.25	7.25	7.35	7.10	7.10
Thermal conductivity (KJ/m·h·ºC)		52.7	46.1	60.2	46.9	46.1	45.2
Specific heat volume (J/g·K)		0.49	0.46	0.46	0.49	0.49	0.49
Coefficient of linear expansion(10^{-6}/K)		15.4	15.0	15.0	13.5	16.0	16.0
Tensile strength (R_m/MPa)		≥580	≥600	≥600	≥580	≥650	≥680
Elongation at rupture (%)	0.1-3.0mm	>12	>12	>12	>12	>10	>10
	>3.0mm	>15	>15	>15	>15	>12	>10
Accelerated life test	Temp.(ºC)	--	1300	1300	1250	1350	1350
	Value (h)	--	≥80	≥80	≥80	≥50	≥50
Bending test (F/R)		≥5	≥5	≥5	≥5	≥5	≥5
Micrographic structure		Ferrite	Ferrite	Ferrite	Ferrite	Ferrite	Ferrite

Fe-Cr-Al alloy wires with their diameters and characteristics(conversion table 1)

Diameter (mm)	0Cr21Al6Nb			0Cr27Al7Mo2		
	Resistivity (μΩ· m 1.45±0.07)			Resistivity (μΩ·m 1.53±0.07)		
	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)
0.05	738.48	71732	0.01394	779.22	71732	0.01394
0.06	512.83	49814	0.02007	541.13	49814	0.02007
0.07	376.78	36598	0.02732	397.56	36598	0.02732
0.08	288.47	28020	0.03569	304.38	28020	0.03569
0.09	227.93	22139	0.04517	240.50	22139	0.04517
0.10	184.62	17933	0.05576	194.81	17933	0.05576
0.12	128.21	12453	0.08030	135.28	12453	0.08030
0.15	82.053	7970.2	0.1255	86.580	7970.2	0.1255
0.20	46.155	4483.2	0.2231	48.701	4483.2	0.2231
0.25	29.539	2869.3	0.3485	31.169	2869.3	0.3485
0.30	20.513	1992.6	0.5019	21.645	1992.6	0.5019
0.35	15.071	1463.9	0.6831	15.903	1463.9	0.6831
0.40	11.539	1120.8	0.8922	12.175	1120.8	0.8922
0.45	9.1170	885.58	1.1292	9.6200	885.58	1.1292
0.50	7.3848	717.32	1.3941	7.7922	717.32	1.3941
0.60	5.1283	498.14	2.0075	5.4113	498.14	2.0075
0.70	3.7678	365.98	2.7324	3.9756	365.98	2.7324
0.80	2.8847	280.20	3.5688	3.0438	280.20	3.5688
0.90	2.2793	221.39	4.5168	2.4050	221.39	4.5168
1.00	1.8462	179.33	5.5763	1.9481	179.33	5.5763
1.20	1.2821	124.53	8.0299	1.3528	124.53	8.0299
1.40	0.9419	91.495	10.930	0.9939	91.495	10.930
1.60	0.7212	70.051	14.275	0.7610	70.051	14.275
1.80	0.5698	55.349	18.067	0.6013	55.349	18.067
2.00	0.4615	44.832	22.305	0.4870	44.832	22.305
2.50	0.2954	28.693	34.852	0.3117	28.693	34.852
3.00	0.2051	19.926	50.187	0.2165	19.926	50.187
3.50	0.1507	14.639	68.310	0.1590	14.639	68.310
4.00	0.1154	11.208	89.22	0.1218	11.208	89.22
4.50	0.0912	8.856	112.92	0.0962	8.856	112.92
5.00	0.0738	7.173	139.41	0.0779	7.173	139.41
5.50	0.0610	5.928	168.68	0.0644	5.928	168.68
6.00	0.0513	4.981	200.75	0.0541	4.981	200.75
6.50	0.0437	4.244	235.60	0.0461	4.244	235.60
7.00	0.0377	3.660	273.24	0.0398	3.660	273.24
8.00	0.0288	2.802	356.88	0.0304	2.802	356.88
9.00	0.0228	2.214	451.68	0.0241	2.214	451.68
10.00	0.0185	1.793	557.63	0.0195	1.793	557.63

Fe-Cr-Al alloy wires with their diameters and characteristics(conversion table 2)

Diameter (mm)	0Cr23Al5			0Cr20Al3		
	Resistivity μΩ· m 1.35±0.06			Resistivity μΩ· m 1.23±0.07		
	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)
0.05	687.55	70248	0.01424	626.43	69292	0.01443
0.06	477.47	48783	0.02050	435.02	48119	0.02078
0.07	350.79	35841	0.02790	319.61	35353	0.02829
0.08	268.57	27441	0.03644	244.70	27067	0.03695
0.09	212.21	21681	0.04612	193.34	21386	0.04676
0.10	171.89	17562	0.05694	156.61	17323	0.05773
0.12	119.37	12196	0.08200	108.76	12030	0.08313
0.15	76.394	7805.3	0.1281	69.604	7699.1	0.1299
0.20	42.972	4390.5	0.2278	39.152	4330.8	0.2309
0.25	27.502	2809.9	0.3559	25.057	2771.7	0.3608
0.30	19.099	1951.3	0.5125	17.401	1924.8	0.5195
0.35	14.032	1433.6	0.6975	12.784	1414.1	0.7072
0.40	10.743	1097.6	0.9111	9.788	1082.7	0.9236
0.45	8.4883	867.26	1.1531	7.7338	855.46	1.1690
0.50	6.8755	702.48	1.4235	6.2643	692.92	1.4432
0.60	4.7747	487.83	2.0499	4.3502	481.19	2.0782
0.70	3.5079	358.41	2.7901	3.1961	353.53	2.8286
0.80	2.6857	274.41	3.6442	2.4470	270.67	3.6945
0.90	2.1221	216.81	4.6122	1.9334	213.86	4.6759
1.00	1.7189	175.62	5.6941	1.5661	173.23	5.7727
1.20	1.1937	121.96	8.1995	1.0876	120.30	8.3126
1.40	0.8770	89.602	11.160	0.7990	88.383	11.314
1.60	0.6714	68.601	14.577	0.6118	67.668	14.778
1.80	0.5305	54.204	18.449	0.4834	53.466	18.703
2.00	0.4297	43.905	22.777	0.3915	43.308	23.091
2.50	0.2750	28.099	35.588	0.2506	27.717	36.079
3.00	0.1910	19.513	51.247	0.1740	19.248	51.954
3.50	0.1403	14.336	69.753	0.1278	14.141	70.715
4.00	0.1074	10.976	91.11	0.0979	10.827	92.36
4.50	0.0849	8.673	115.31	0.0773	8.555	116.90
5.00	0.0688	7.025	142.35	0.0626	6.929	144.32
5.50	0.0568	5.806	172.25	0.0518	5.727	174.62
6.00	0.0477	4.878	204.99	0.0435	4.812	207.82
6.50	0.0407	4.157	240.58	0.0371	4.100	243.90
7.00	0.0351	3.584	279.01	0.0320	3.535	282.86
8.00	0.0269	2.744	364.42	0.0245	2.707	369.45
9.00	0.0212	2.168	461.22	0.0193	2.139	467.59
10.00	0.0172	1.756	569.41	0.0157	1.732	577.27

Fe-Cr-Al alloy wires with their diameters and characteristics(conversion table 3)

Diameter (mm)	1Cr13Al4			0Cr25Al5		
	Resistivity(μΩ· m 1.25±0.08)			Resistivity(μΩ· m 1.42±0.07)		
	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per km.(kg/km)
0.03	1768.4	191177	0.00523	2008.9	195133	0.00512
0.04	994.72	107537	0.00930	1130.00	109762	0.00911
0.05	636.62	68824	0.01453	723.20	70248	0.01424
0.06	442.10	47794	0.02092	502.22	48783	0.02050
0.07	324.81	35114	0.02848	368.98	35841	0.02790
0.08	248.68	26884	0.03720	282.50	27441	0.03644
0.09	196.49	21242	0.04708	223.21	21681	0.04612
0.10	159.16	17206	0.05812	180.80	17562	0.05694
0.12	110.52	11949	0.08369	125.56	12196	0.08200
0.15	70.736	7647.1	0.1308	80.356	7805.3	0.1281
0.20	39.789	4301.5	0.2325	45.200	4390.5	0.2278
0.25	25.465	2753.0	0.3632	28.928	2809.9	0.3559
0.30	17.684	1911.8	0.5231	20.089	1951.3	0.5125
0.35	12.992	1404.6	0.7120	14.759	1433.6	0.6975
0.40	9.947	1075.4	0.9299	11.300	1097.6	0.9111
0.45	7.8595	849.68	1.1769	8.9284	867.26	1.1531
0.50	6.3662	688.24	1.4530	7.2320	702.48	1.4235
0.60	4.4210	477.94	2.0923	5.0222	487.83	2.0499
0.70	3.2481	351.14	2.8479	3.6898	358.41	2.7901
0.80	2.4868	268.84	3.7196	2.8250	274.41	3.6442
0.90	1.9649	212.42	4.7077	2.2321	216.81	4.6122
1.00	1.5916	172.06	5.8119	1.8080	175.62	5.6941
1.20	1.1052	119.49	8.3692	1.2556	121.96	8.1995
1.40	0.8120	87.785	11.391	0.9224	89.602	11.160
1.60	0.6217	67.211	14.879	0.7063	68.601	14.577
1.80	0.4912	53.105	18.831	0.5580	54.204	18.449
2.00	0.3979	43.015	23.248	0.4520	43.905	22.777
2.50	0.2546	27.530	36.325	0.2893	28.099	35.588
3.00	0.1768	19.118	52.307	0.2009	19.513	51.247
3.50	0.1299	14.046	71.196	0.1476	14.336	69.753
4.00	0.0995	10.754	92.99	0.1130	10.976	91.11
4.50	0.0786	8.497	117.69	0.0893	8.673	115.31
5.00	0.0637	6.882	145.30	0.0723	7.025	142.35
5.50	0.0526	5.688	175.81	0.0598	5.806	172.25
6.00	0.0442	4.779	209.23	0.0502	4.878	204.99
6.50	0.0377	4.072	245.55	0.0428	4.157	240.58
7.00	0.0325	3.511	284.79	0.0369	3.584	279.01
8.00	0.0249	2.688	371.96	0.0283	2.744	364.42
9.00	0.0196	2.124	470.77	0.0223	2.168	461.22
10.00	0.0159	1.721	581.19	0.0181	1.756	569.41

Fe-Cr-Al ribbons with their specification and characteristics(1)

Width× thickness (mm)	Cross sectional area (mm^2)	0Cr25Al5			0Cr20Al3		
		Resistivity (1.42±0.06μΩ·m)			Resistivity (1.23±0.06μΩ·m)		
		Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)
0.08×0.2	0.0152	93.42	9266	0.000108	80.92	8951	0.000112
0.4	0.0304	46.71	4633	0.000216	40.46	4475	0.000223
0.6	0.0456	31.14	3.89	0.000324	26.97	2984	0.000335
0.8	0.0608	23.36	2317	0.000432	20.23	2238	0.000447
1.0	0.0760	18.68	1584	0.000540	16.18	1790	0.000559
1.2	0.0912	15.57	1544	0.000648	13.49	1492	0.000670
1.5	0.114	12.46	1235	0.000809	10.79	1193	0.000838
0.1×0.2	0.0190	74.74	7413	0.000135	64.74	7161	0.000140
0.4	0.0380	37.37	3706	0.000270	32.37	3580	0.000279
0.6	0.0570	24.91	2471	0.000405	21.58	2387	0.000419
0.8	0.0760	18.68	1853	0.000540	16.18	1790	0.000559
1.0	0.0950	14.95	1483	0.000675	12.95	1432	0.000698
1.5	0.143	9.930	985	0.00102	8.601	951	0.00105
2.0	0.190	7.474	741	0.00135	6.474	716	0.00140
0.15×0.2	0.0285	49.82	4942	0.000202	43.16	4773	0.000209
0.4	0.0570	24.91	2471	0.000405	21.58	2387	0.000419
0.6	0.0855	16.61	1647	0.000607	14.39	1591	0.000628
0.8	0.114	12.46	1235	0.000809	10.79	1193	0.000838
1.0	0.143	9.930	985	0.00102	8.601	951	0.00105
1.5	0.214	6.636	658	0.00152	5.748	636	0.00157
2.0	0.285	4.982	494	0.00202	4.316	477	0.00209
0.2×0.4	0.0760	18.68	1853	0.000540	16.18	1790	0.000559
0.6	0.114	12.46	1235	0.000809	10.79	1193	0.000838
0.8	0.152	9.342	927	0.00108	8.092	895	0.00112
1.0	0.190	7.474	741	0.00135	6.474	716	0.00140
1.5	0.285	4.982	494	0.00202	4.316	477	0.00209
2.0	0.380	3.373	371	0.00270	3.237	358	0.00279
3.0	0.570	2.491	247	0.00405	2.158	239	0.00419
0.4×0.6	0.228	6.228	618	0.00162	5.395	597	0.00168
0.8	0.304	4.671	463	0.00216	4.046	448	0.00223
1.0	0.380	3.373	371	0.00270	3.237	358	0.00279
1.5	0.570	2.491	247	0.00405	2.158	239	0.00419
2.0	0.760	1.868	185	0.00540	1.618	179	0.00559
3.0	1.140	1.246	124	0.00809	1.079	119	0.00838
4.0	1.520	0.9342	92.7	0.01079	0.809	90	0.0112
0.6×0.8	0.456	3.114	309	0.00324	2.697	298	0.00335
1.0	0.570	2.491	247	0.00405	2.158	239	0.00419
1.5	0.855	1.661	165	0.00607	1.439	159	0.00628
2.0	1.140	1.246	124	0.00809	1.079	119	0.00838
3.0	1.71	0.8304	82.4	0.01214	0.719	80	0.0126
4.0	2.28	0.6228	61.8	0.01619	0.540	60	0.0168
0.8×1.0	0.760	1.868	185	0.00540	1.618	179	0.00559
1.5	1.140	1.246	124	0.00809	1.079	119	0.00838
2.0	1.520	0.9342	92.7	0.01079	0.8092	90	0.0112
3.0	2.28	0.6228	61.8	0.01619	0.540	60	0.0168
4.0	3.04	0.4671	46.3	0.02158	0.405	45	0.0223
1.0×1.5	1.425	0.9965	98.8	0.01012	0.863	95	0.0105
2.0	1.90	0.7474	74.1	0.01349	0.647	72	0.0140
3.0	2.85	0.4982	49.4	0.02024	0.432	48	0.0209
4.0	3.80	0.3737	37.1	0.02698	0.324	36	0.0279

Fe-Cr-Al ribbons with their specification and characteristics(2)

Width× thickness (mm)	Cross sectional area(mm^2)	0Cr25Al5			0Cr20Al3		
		Resistivity (1.42±0.06μΩ·m)			Resistivity (1.23±0.06μΩ·m)		
		Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)	Resistance 20ºC(Ω/m)	Length per kg.(m/kg)	Weight per Meter(kg/m)
10×0.5	4.90	0.2900	28.74	0.03479	0.2510	27.76	0.03602
0.8	7.84	0.1811	17.97	0.05566	0.1569	17.35	0.05762
1.0	9.80	0.1449	14.37	0.06958	0.1255	13.88	0.07203
1.2	11.76	0.1207	11.98	0.08350	0.1046	11.57	0.08644
1.5	14.70	0.0966	9.58	0.10437	0.0837	9.26	0.10805
2.0	19.60	0.0724	7.19	0.13920	0.0628	6.94	0.14406
15×0.8	11.76	0.1207	11.98	0.08350	0.1046	11.57	0.08644
1.0	14.70	0.0966	9.58	0.10437	0.0837	9.26	0.10805
1.2	17.64	0.0805	7.98	0.12524	0.0697	7.71	0.1297
1.5	22.05	0.0644	6.39	0.15656	0.0558	6.17	0.16207
2.0	29.40	0.0483	4.79	0.20874	0.0418	4.63	0.21609
2.5	36.75	0.0386	3.83	0.26093	0.0335	3.70	0.27011
20×0.8	15.68	0.0906	8.98	0.11133	0.0784	8.68	0.11525
1.0	19.60	0.0724	7.19	0.13916	0.0628	6.94	0.14406
1.2	23.52	0.0604	5.99	0.16699	0.0523	5.78	0.17287
1.5	29.40	0.0483	4.79	0.20874	0.0418	4.63	0.21609
2.0	39.20	0.0362	3.59	0.27832	0.0314	3.47	0.28812
2.5	49.00	0.0290	2.87	0.34790	0.0251	2.78	0.36015
3.0	58.80	0.0241	2.40	0.41748	0.0209	2.31	0.43218
25×1.0	24.50	0.0580	5.75	0.17395	0.0502	5.55	0.18008
1.2	29.40	0.0483	4.79	0.20874	0.0418	4.63	0.21609
1.5	36.75	0.0386	3.83	0.26093	0.0335	3.70	0.27011
2.0	49.00	0.0290	2.87	0.34790	0.0251	2.78	0.36015
2.5	61.25	0.0232	2.30	0.43488	0.0201	2.22	0.45019
3.0	73.50	0.0193	1.92	0.52185	0.0167	1.85	0.54023
30×1.0	29.40	0.0483	4.79	0.20874	0.0418	4.63	0.21609
1.5	44.10	0.0322	3.19	0.31311	0.0279	3.09	0.32414
2.0	58.80	0.0241	2.40	0.41748	0.0209	2.31	0.43218
2.5	73.50	0.0193	1.92	0.52185	0.0167	1.85	0.54023
3.0	88.20	0.0161	1.60	0.62622	0.0139	1.54	0.64827
3.5	102.9	0.0138	1.37	0.73059	0.0120	1.32	0.75632
35×1.0	34.30	0.0414	4.11	0.24353	0.0359	3.97	0.25211
1.5	51.45	0.0276	2.74	0.36530	0.0239	2.64	0.37816
2.0	68.60	0.0207	2.05	0.48706	0.0179	1.98	0.50421
2.5	85.75	0.0166	1.64	0.60883	0.0143	1.59	0.63026
3.0	102.9	0.0138	1.37	0.73059	0.0120	1.32	0.75632
3.5	120.1	0.0118	1.17	0.85271	0.0102	1.13	0.88274
40×1.0	39.2	0.0362	3.59	0.27832	0.0314	3.47	0.28812
1.5	58.80	0.0241	2.40	0.41748	0.0209	2.31	0.43218
2.0	78.40	0.0181	1.80	0.55664	0.0157	1.74	0.57624
2.5	98.00	0.0145	1.44	0.69580	0.0126	1.39	0.72030
3.0	117.6	0.0121	1.20	0.83496	0.0105	1.16	0.86436
3.5	137.2	0.0103	1.03	0.97412	0.0090	0.99	1.00842
4.0	156.8	0.0091	0.898	1.11328	0.0078	0.87	1.15248

Main characteristics of copper-based low resistance heating alloys

Properties / Alloy Name	Resistivity μΩ.m (20 ºC)	Max. working Temperature (ºC)	Tensile Strength (Mpa)	Melting point (ºC)	Density (g/cm³)	TCR x10⁻⁶ / ºC (20~600ºC)	Thermovoltage to copper (μV / ºC) (0~100 ºC)
NC003 (CuNi1)	0.03	300	210	1085	8.9	<100	-8
NC005 (CuNi2)	0.05	300	220	1090	8.9	<120	-12
NC010 (CuNi6)	0.10	320	250	1095	8.9	<60	-18
NC012 (CuMn3)	0.125	200	290	1050	8.8	<57	+1
NC015 (CuNi10)	0.15	400	290	1100	8.9	<50	-25
NC020 (CuNi14)	0.20	400	310	1115	8.9	<30	-28
NC025 (CuNi19)	0.25	400	340	1135	8.9	<25	-32
NC030 (CuNi23)	0.30	500	350	1150	8.9	<16	-34
NC035 (CuNi30)	0.35	500	400	1170	8.8	<10	-37
NC040 (CuNi34)	0.40	550	400	1180	8.9	0	-39
NC050 (CuNi44)	0.49	600	420	1200	8.9	<-6	-43

Main characteristics of precision resistance alloys

Properties / Alloy name		6J40 Constantan	6J11 New Constantan	6J12 Manganin	6J8 F1 Manganin	6J13 F2 Manganin
Main Chemical Composition (%)	Mn	1~2	11.5~12.5	11~13	8~10	11~13
	Ni	39~41	-	2~3	-	2~5
	Cu	Bal.	Bal.	Bal.	Bal.	Bal.
	Other		Al：2.5~4.5 Fe：1.0~1.6		Si：1~2	
Max. Continuous service temp. (ºC)		5~500	5~500	5~45	10~80	10~80
Density (g/cm^3)		8.88	8.0	8.44	8.7	8.4
Resistivity at 20ºC (μΩ·m)		0.48±0.03	0.49±0.03	0.47±0.03	0.35±0.05	0.44±0.04
Elongation rate (%,Φ>0.5,L_0=200mm)		≥15	≥15	≥15	≥15	≥15
TCR ($\alpha\times10^{-6}$/ ºC)		-40~+40	-80~+80	-3~+20	-5~+10	0~+40
Thermovoltage to copper μV / ºC (0～100ºC)		45	2	1	2	2

Common Cu-Ni alloy wires with their diameters and characteristics(conversion table)

Dia. (mm)	CuNi2 (NC005)	CUNi6 (NC010)	CuMn3 (NC012)	CuNi10 (NC015)	CuNi23 (NC030)	CuNi30 (NC035)	CuNi44 (NC050)
	Resistance per meter 20ºC(Ω/m)						
0.05	25.46	50.93	63.66	76.39	152.79	178.25	249.56
0.06	17.68	35.37	44.21	53.05	106.10	123.79	173.30
0.07	12.99	25.98	32.48	38.98	77.95	90.95	127.32
0.08	9.95	19.89	24.87	29.84	59.68	69.63	97.48
0.09	7.86	15.72	19.65	23.58	47.16	55.02	77.02
0.10	6.37	12.73	15.92	19.10	38.20	44.56	62.39
0.12	4.42	8.84	11.05	13.26	26.53	30.95	43.33
0.15	2.829	5.659	7.074	8.488	16.977	19.806	27.728
0.20	1.592	3.183	3.979	4.775	9.549	11.141	15.597
0.25	1.019	2.037	2.546	3.056	6.112	7.130	9.982
0.30	0.707	1.415	1.768	2.122	4.244	4.951	6.932
0.35	0.520	1.039	1.299	1.559	3.118	3.638	5.093
0.40	0.398	0.796	0.995	1.194	2.387	2.785	3.899
0.45	0.3144	0.6288	0.7860	0.9431	1.8863	2.2007	3.0809
0.50	0.2546	0.5093	0.6366	0.7639	1.5279	1.7825	2.4956
0.60	0.1768	0.3537	0.4421	0.5305	1.0610	1.2379	1.7330
0.70	0.1299	0.2598	0.3248	0.3898	0.7795	0.9095	1.2732
0.80	0.0995	0.1989	0.2487	0.2984	0.5968	0.6963	0.9748
0.90	0.0786	0.1572	0.1965	0.2358	0.4716	0.5502	0.7702
1.00	0.0637	0.1273	0.1592	0.1910	0.3820	0.4456	0.6239
1.20	0.0442	0.0884	0.1105	0.1326	0.2653	0.3095	0.4333
1.40	0.0325	0.0650	0.0812	0.0974	0.1949	0.2274	0.3183
1.60	0.0249	0.0497	0.0622	0.0746	0.1492	0.1741	0.2437
1.80	0.0196	0.0393	0.0491	0.0589	0.1179	0.1375	0.1926
2.00	0.0159	0.0318	0.0398	0.0477	0.0955	0.1114	0.1560
2.50	0.0102	0.0204	0.0255	0.0306	0.0611	0.0713	0.0998
3.00	0.0071	0.0141	0.0177	0.0212	0.0424	0.0495	0.0693
3.50	0.0052	0.0104	0.0130	0.0156	0.0312	0.0364	0.0509
4.00	0.0040	0.0080	0.0099	0.0119	0.0239	0.0279	0.0390
4.50	0.0031	0.0063	0.0079	0.0094	0.0189	0.0220	0.0308
5.00	0.0025	0.0051	0.0064	0.0076	0.0153	0.0178	0.0250
5.50	0.0021	0.0042	0.0053	0.0063	0.0126	0.0147	0.0206
6.00	0.0018	0.0035	0.0044	0.0053	0.0106	0.0124	0.0173
6.50	0.0015	0.0030	0.0038	0.0045	0.0090	0.0105	0.0148
7.00	0.0013	0.0026	0.0032	0.0039	0.0078	0.0091	0.0127
8.00	0.0010	0.0020	0.0025	0.0030	0.0060	0.0070	0.0097
9.00	0.0008	0.0016	0.0020	0.0024	0.0047	0.0055	0.0077
10.00	0.0006	0.0013	0.0016	0.0019	0.0038	0.0045	0.0062

The rectification coefficient in temperature for high resistance heating alloys

Alloy Name	20	100	200	300	400	500	600	700	800	900	1000	1100	1200
	ºC	ºC	ºC	ºC	ºC	ºC	ºC	ºC	ºC	ºC	ºC	ºC	ºC
1Cr13A14	1	1.005	1.014	1.028	1.044	1.064	1.09	1.12	1.132	1.142	1.15		
0Cr25A15	1	1.002	1.005	1.008	1.013	1.021	1.03	1.038	1.04	1.042	1.044	1.046	1.047
0Cr21A14	1	1.011	1.025	1.042	1.061	1.085	1.12	1.142	1.154	1.172	1.18	1.186	
0Cr21A16Nb	1	0.997	0.996	0.994	0.991	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
0Cr27A17Mo2	1	0.992	0.986	0.981	0.978	0.976	0.974	0.972	0.97	0.969	0.968	0.968	0.967
Cr20Ni80	1	1.006	1.012	1.018	1.025	1.026	1.018	1.01	1.008	1.01	1.014	1.021	1.025
Cr30Ni70	1	1.007	1.016	1.028	1.038	1.044	1.036	1.03	1.028	1.029	1.033	1.037	1.043
Cr15Ni60	1	1.011	1.024	1.038	1.052	1.064	1.069	1.073	1.078	1.088	1.095	1.109	
Cr20Ni35	1	1.029	1.061	1.09	1.115	1.139	1.157	1.173	1.188	1.208	1.219	1.228	
Cr20Ni30	1	1.023	1.052	1.079	1.103	1.125	1.141	1.158	1.173	1.187	1.201	1.214	1.226

The resistivity for soft wires under room temperature

Alloy name	Diameter range (mm)	Resistivity (20 ºC)μΩ.m
Cr20Ni80	<0.50mm	1.09±0.05
	0.50~3.0mm	1.13±0.05
	>3.0mm	1.14±0.05
Cr30Ni70	<0.50mm	1.18±0.05
	≥0.50mm	1.20±0.05
Cr15Ni60	<0.50mm	1.12±0.05
	≥0.50mm	1.15±0.05
Cr20Ni35	-	1.04±0.05
Cr20Ni30	-	1.04±0.05
1Cr13Al4	0.020~10.0mm	1.25±0.08
0Cr25Al5	0.020~10.0mm	1.42±0.07
0Cr23Al5	0.020~10.0mm	1.35±0.06
0Cr20Al3	0.020~10.0mm	1.23±0.07
0Cr21Al6Nb	0.020~10.0mm	1.45±0.07
0Cr27Al7Mo2	0.020~10.0mm	1.53±0.07

Chemical composition of high resistance heating alloys

Alloy name	C	P	S	Mn	Si	Cr	Ni	Al	Fe	Other
	≤									
Cr20Ni80	0.08	0.02	0.015	0.6	0.75~1.6	20~23	Bal.	≤0.5	≤1.0	—
Cr30Ni70	0.08	0.02	0.015	0.6	0.75~1.6	28~31	Bal.	≤0.5	≤1.0	—
Cr15Ni60	0.08	0.02	0.015	0.6	0.75~1.6	15~18	55~61	≤0.5	Bal.	—
Cr20Ni35	0.08	0.02	0.015	1.0	1.0~3.0	18~21	34~37	—	Bal.	—
Cr20Ni30	0.08	0.02	0.015	1.0	1.0~3.0	18~21	30~34	—	Bal.	—
1Cr13Al4	0.12	0.025	0.020	0.5	≤0.7	12~15	≤0.6	4~6	Bal.	—
OCr25Al5	0.06	0.025	0.020	0.5	≤0.6	23~26	≤0.6	4.5~6.5	Bal.	—
OCr23Al5	0.06	0.025	0.020	0.5	≤0.6	20.5~23.5	≤0.6	4.2~5.3	Bal.	—
OCr20Al3	0.08	0.025	0.020	0.5	≤0.7	18~21	≤0.6	3~4.2	Bal.	—
OCr21Al6Nb	0.05	0.025	0.020	0.5	≤0.6	21~23	≤0.6	5~7	Bal.	Nb 0.5
OCr27Al7Mo2	0.05	0.025	0.020	0.2	≤0.4	26.5~27.8	≤0.6	6~7	Bal.	Mo 1.8~2.2

Wire gauge table

Wire number	SWG		AWG		Wire number	SWG		AWG	
	Inch	Millimeter	Inch	Millimeter		Inch	Millimeter	Inch	Millimeter
000000 (6/0)	0.464	11.786	0.58	14.732	23	0.024	0.610	0.0226	0.574
00000 (5/0)	0.432	10.973	0.5165	13.119	24	0.022	0.559	0.0201	0.511
0000 (4/0)	0.4	10.160	0.46	11.684	25	0.02	0.508	0.0179	0.455
000 (3/0)	0.372	9.449	0.409642	10.405	26	0.018	0.457	0.0159	0.404
00 (2/0)	0.348	8.839	0.364796	9.266	27	0.0164	0.417	0.0142	0.361
0 (1/0)	0.324	8.230	0.324861	8.251	28	0.0148	0.376	0.0126	0.320
1	0.3	7.620	0.289297	7.348	29	0.0136	0.345	0.0113	0.287
2	0.276	7.010	0.257627	6.544	30	0.0124	0.315	0.01	0.254
3	0.252	6.401	0.229423	5.827	31	0.0116	0.295	0.0089	0.226
4	0.232	5.893	0.2043	5.189	32	0.0108	0.274	0.008	0.203
5	0.212	5.385	0.1819	4.620	33	0.01	0.254	0.0071	0.180
6	0.192	4.877	0.162	4.115	34	0.0092	0.234	0.0063	0.160
7	0.176	4.470	0.1443	3.665	35	0.0084	0.213	0.0056	0.142
8	0.16	4.064	0.1285	3.264	36	0.0076	0.193	0.005	0.127
9	0.144	3.658	0.1144	2.906	37	0.0068	0.173	0.0045	0.114
10	0.128	3.251	0.1019	2.588	38	0.006	0.152	0.004	0.102
11	0.116	2.946	0.0907	2.304	39	0.0052	0.132	0.0035	0.089
12	0.104	2.642	0.0808	2.052	40	0.0048	0.122	0.0031	0.079
13	0.092	2.337	0.072	1.829	41	0.0044	0.112	0.0028	0.071
14	0.08	2.032	0.0641	1.628	42	0.004	0.102	0.0025	0.064
15	0.072	1.829	0.0571	1.450	43	0.0036	0.091	0.0022	0.056
16	0.064	1.626	0.0508	1.290	44	0.0032	0.081	0.002	0.051
17	0.056	1.422	0.0453	1.151	45	0.0028	0.071	0.0018	0.046
18	0.048	1.219	0.0403	1.024	46	0.0024	0.061	0.0016	0.041
19	0.04	1.016	0.0359	0.912	47	0.002	0.051	0.0014	0.036
20	0.036	0.914	0.032	0.813	48	0.0016	0.041	0.0012	0.030
21	0.032	0.813	0.0285	0.724	49	0.0012	0.030	0.0011	0.028
22	0.028	0.711	0.0253	0.643	50	0.001	0.025	0.001	0.025