No.30
Fe-Chrome Type 1

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Alloys：No.30 (Fe-Chrome Type 1)

[JIS C 2520]
[JIS C 2532]

Good heat resistance and oxidation resistance, suitable for high temperature use. High temperature strength is small and ferromagnetic. Workability is hard and cold workability is not good. Workability can be improved by warm working (100-300℃).
The properties are almost the same as those of FCH1 iron-chromium electric heating wire type 1, but the composition contains rare metals, making it superior in workability and maximum operating temperature.

JIS	JIS Code	Electrical Resistivity [μΩm]	Average TCR [×10-6/℃]
FCH1	C 2520	1.42±0.05	
GNC142	C 2532		

（＊）Reference value

Cuprous Electromotive Force Mv/K (0~100℃)	Thermal Expansion Coefficient ×10-6/	Specific Heat J/g･K (20℃)	Thermal Conductivity w/m･K	Density g/cm3 (20℃	Melting Point ℃	Max Operating Temperature ℃
-0.4	13.0	0.46	13	7.20	1520	1300

Chemical Composition	C	Si	Mn	Cr	Al	Fe
（%）	≦0.11	≦1.5	≦1.0	23～26	4~6	BAL

Resistance increase by temperature

℃	20	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300
Coefficient	1.000	1.005	1.009	1.013	1.018	1.021	1.027	1.037	1.043	1.047	1.048	1.049	1.049	

Alloys	Type	Diameter (mm)
No.30	Wire	Φ1.00～0.08
	Ribbon	Please consult

No.30 (Fe-Chrome Type 1)

Resistance・Length・Weight

Wire　　Electrical Resistivity（23℃μΩm）1.42±0.06

Diameter (mm)	Tolerance (mm)	Cross section (mm2)	Resistance Tolerance (%)	DC Resistance (Ω/m)	Length (m/Kg)	Weight (g/m)
1.00	±0.025	0.7854	±6	1.81	177	5.65
0.90	±0.025	0.6362	±6	2.23	218	4.58
0.85	±0.025	0.5675	±6	2.50	245	4.09
0.80	±0.020	0.5027	±6	2.82	276	3.62
0.75	±0.020	0.4418	±6	3.21	314	3.18
0.70	±0.020	0.3848	±6	3.69	361	2.77
0.65	±0.020	0.3318	±6	4.28	419	2.39
0.60	±0.020	0.2827	±6	5.02	491	2.04
0.55	±0.016	0.2376	±7	5.98	585	1.71
0.50	±0.016	0.1964	±7	7.23	707	1.41
0.45	±0.016	0.1590	±7	8.93	873	1.15
0.40	±0.016	0.1257	±7	11.3	1105	0.905
0.35	±0.013	0.09621	±7	14.8	1444	0.693
0.32	±0.013	0.08042	±7	17.7	1727	0.579
0.29	±0.013	0.06605	±7	21.5	2103	0.476
0.26	±0.010	0.05309	±8	26.7	2616	0.382
0.23	±0.010	0.04155	±8	34.2	3343	0.299
0.20	±0.010	0.03142	±8	45.2	4421	0.226
0.18	±0.008	0.02545	±8	55.8	5458	0.183
0.16	±0.008	0.02011	±8	70.6	6908	0.145
0.15	±0.008	0.01767	±8	80.4	7859	0.127
0.14	±0.008	0.01539	±8	92.2	9022	0.111
0.13	±0.006	0.01327	±9	107	10464	0.0956
0.12	±0.006	0.01131	±9	126	12280	0.0814
0.11	±0.006	0.009503	±9	149	14615	0.0684
0.10	±0.006	0.007854	±9	181	17684	0.0565
0.09	±0.006	0.006362	±10	223	21832	0.0458
0.08	±0.005	0.005027	±10	282	27631	0.0362

No.30 (Fe-Chrome Type 1)

Temperature Current Characteristics・Diameter・Temperature・Current

Wire

Electrical Resistivity（23℃μΩm）1.42±0.06

［Unit：Ampere］

Diameter (mm)	200 (℃)	300 (℃)	400 (℃)	500 (℃)	600 (℃)	700 (℃)	800 (℃)	900 (℃)	1000 (℃)	1100 (℃)
1.00	4.70	6.10	8.00	9.40	11.5	13.5	15.5	17.5	20.0	23.0
0.90	4.10	5.50	7.10	8.20	10.0	11.8	14.0	16.0	18.2	21.0
0.85	3.90	5.10	6.60	7.70	9.30	10.8	12.8	14.8	17.0	19.3
0.80	3.50	4.70	6.10	7.00	8.50	10.0	11.8	13.5	15.5	17.5
0.75	3.30	4.30	5.60	6.50	7.80	9.00	10.7	12.4	14.0	16.0
0.70	3.00	3.90	5.10	5.90	7.10	8.30	9.70	11.0	12.9	14.7
0.65	2.80	3.60	4.70	5.40	6.50	7.50	8.70	10.0	11.6	13.2
0.60	2.50	3.20	4.20	4.80	5.80	6.80	7.80	9.00	10.3	12.0
0.55	2.30	2.90	3.80	4.30	5.20	6.00	7.00	8.00	9.20	10.5
0.50	2.00	2.60	3.40	3.80	4.60	5.30	6.30	7.10	8.20	9.20
0.45	1.80	2.30	2.90	3.30	4.00	4.60	5.20	5.90	6.70	7.60
0.40	1.50	1.90	2.50	2.90	3.40	3.90	4.50	5.20	5.90	6.70
0.35	1.26	1.60	2.10	2.50	2.90	3.30	3.70	4.30	4.80	5.50
0.32	1.13	1.45	1.86	2.20	2.60	2.90	3.40	3.90	4.40	4.90
0.29	1.00	1.30	1.65	1.90	2.30	2.60	3.00	3.40	3.80	4.30
0.26	0.88	1.13	1.45	1.70	2.00	2.30	2.60	2.90	3.30	3.70
0.23	0.76	1.00	1.25	1.45	1.70	1.90	2.20	2.50	2.80	3.20
0.20	0.64	0.84	1.05	1.21	1.42	1.63	1.85	2.10	2.40	2.60
0.18	0.56	0.74	0.92	1.06	1.25	1.42	1.62	1.85	2.00	2.30
0.16	0.49	0.64	0.79	0.91	1.06	1.23	1.40	1.60	1.79	1.98
0.15	0.45	0.59	0.73	0.84	0.98	1.12	1.30	1.46	1.63	1.80
0.14	0.42	0.55	0.67	0.78	0.90	1.05	1.20	1.34	1.50	1.65
0.13	0.38	0.50	0.61	0.71	0.82	0.95	1.09	1.22	1.38	1.50
0.12	0.35	0.46	0.56	0.64	0.74	0.86	1.00	1.10	1.23	1.35
0.11	0.31	0.42	0.50	0.58	0.67	0.77	0.88	1.00	1.10	1.20
0.10	0.28	0.37	0.45	0.52	0.59	0.68	0.78	0.88	0.98	1.07
0.09	0.23	0.31	0.37	0.44	0.51	0.57	0.64	0.77	0.78	0.86
0.08	0.20	0.27	0.32	0.38	0.44	0.49	0.55	0.61	0.67	0.73

（＊）Reference value

Ribbon

Electrical Resistivity（23℃μΩm）1.42±0.06

Conductor Resistance Tolerance of Ribbon

Thickness [mm]	Width [mm]	Resitance Tolerance [%]
0.08above 3.15below	10below	±8
	10above	±7

*We can manufacture products other than the standard (size and tolerance), so please contact us.