

[JIS C 2520]

[JIS C 2532]

Alloys : NCH1 (Nickel Chrome Type 1)

Characterisitic

Outstanding resistance to corrosion and have excellent performance

High temperature operation. Good on cold working

Suitable for high temperature heating application and high resistor.

JIS	JIS Code	Electrical Resistivity [$\mu\Omega\text{m}$]	Average TCR [$\times 10^{-6}/^{\circ}\text{C}$]
NCH1 GNC108	C 2520 C 2532	1.08 ± 0.05	* 140 (20~1000 $^{\circ}\text{C}$)

	Thermal Expansion Coefficient $\times 10^{-6}/^{\circ}\text{C}$	Specific Heat $\text{J/g} \cdot \text{K}$ (20 $^{\circ}\text{C}$)	Thermal Conductivity $\text{w/m} \cdot \text{K}$	Density g/cm^3 (20 $^{\circ}\text{C}$)	Melting Point $^{\circ}\text{C}$	Max Operating Temperature $^{\circ}\text{C}$
	17	0.42	15	8.41	1400	1100

Chemical Composition	C	Si	Mn	Ni	Cr	Fe
(%)	≤ 0.15	0.75~1.6	≤ 2.5	≥ 77	19~21	≤ 1

Resistance increase by temperature

$^{\circ}\text{C}$	20	100	200	300	400	500	600	700	800	900	1000	1100	1200
係数	1.000	1.009	1.024	1.039	1.056	1.070	1.068	1.062	1.060	1.063	1.070	1.080	1.09.3

Alloys	Type	Diameter (mm)	
NCHW1	Wire	$\phi 6.00 \sim 0.025$	
NCHR1	Ribbon	$t=2.90 \sim 0.05$	$w=40 \sim 0.4$
NCH1P	Plate	Please consult	
NCH1	Foil	$t=0.40 \sim 0.02$	$w=120 \sim 5$

Nickel Chrome Heating Wire 【Resistance • Length • Weight】

Alloys NCHW1	Resistivity (23°CμΩm) 1.08±0.05
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Diameter (mm)	Tolerance (mm)	Cross section (mm ²)	Resistance Tolerance (%)	DC Resistance (Ω/m)	Length (m/Kg)	Weight (g/m)
6.00	±0.080	28.27	±5	0.0382	4.21	238
5.50	±0.063	23.76	±5	0.0455	5.00	200
5.00	±0.063	19.64	±5	0.0550	6.06	165
4.50	±0.063	15.90	±5	0.0679	7.48	134
4.00	±0.063	12.57	±5	0.0859	9.46	106
3.50	±0.050	9.621	±5	0.112	12.4	80.9
3.20	±0.050	8.042	±5	0.134	14.8	67.6
2.90	±0.050	6.605	±5	0.164	18.0	55.5
2.60	±0.040	5.309	±5	0.203	22.4	44.7
2.30	±0.040	4.155	±5	0.260	28.6	34.9
2.00	±0.040	3.142	±5	0.344	37.8	26.4
1.80	±0.040	2.545	±5	0.424	46.7	21.4
1.60	±0.032	2.011	±5	0.537	59.1	16.9
1.50	±0.032	1.767	±5	0.611	67.3	14.9
1.40	±0.032	1.539	±5	0.702	77.2	12.9
1.30	±0.032	1.327	±5	0.814	89.6	11.2
1.20	±0.025	1.131	±5	0.955	105	9.51
1.10	±0.025	0.9503	±6	1.14	125	7.99
1.00	±0.025	0.7854	±6	1.38	151	6.61
0.90	±0.025	0.6362	±6	1.70	187	5.35
0.85	±0.025	0.5675	±6	1.90	210	4.77
0.80	±0.020	0.5027	±6	2.15	237	4.23
0.75	±0.020	0.4418	±6	2.44	269	3.72
0.70	±0.020	0.3848	±6	2.81	309	3.24
0.65	±0.020	0.3318	±6	3.25	358	2.79
0.60	±0.020	0.2827	±6	3.82	421	2.38
0.55	±0.016	0.2376	±7	4.55	500	2.00
0.50	±0.016	0.1964	±7	5.50	606	1.65
0.45	±0.016	0.1590	±7	6.79	748	1.34
0.40	±0.016	0.1257	±7	8.59	946	1.06

Nickel Chrome Heating Wire 【Resistance • Length • Weight】

Alloys NCHW1	Resistivity (23°C μΩm) 1.08±0.05
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[illegible]

温度電流特性

■ NCHW1 線径・温度・電流表

[アンペア]

線 径 [mm]	温 度 [°C]									
	200	300	400	500	600	700	800	900	1000	1100
8.00	86	120	150	183	225	270	325	380	440	500
7.00	71	99	125	150	180	220	270	315	360	410
6.50	63	88	112	135	165	198	242	282	325	365
6.00	56	78	98	119	147	175	210	250	290	325
5.50	49	69	97	105	130	155	190	220	255	290
5.00	43	59	75	90	112	135	164	190	220	250
4.50	36	50	64	77	94	115	140	160	190	215
4.00	31	42	54	65	80	94	113	133	159	180
3.50	25	34	44	53	66	78	96	113	130	150
3.20	22	30	39	46	57	68	83	98	114	130
2.90	18.8	26	34	40	49	59	72	84	98	111
2.60	15.5	22	28	34	42	50	62	72	83	93
2.30	13.2	18.1	24	29	35	42	52	60	69	79
2.00	11.0	15.0	20	24	29	35	41	49	56	64
1.80	9.7	13.2	17.3	21	25	30	33	42	48	55
1.60	8.2	11.3	15.0	17.5	21	26	31	35	41	46
1.50	7.6	10.4	13.6	16.0	19.5	23	28	32	37	42
1.40	7.0	9.5	12.5	14.6	18.0	21	26	29	34	39
1.30	6.4	8.7	11.3	13.3	16.2	19.0	23	26	30	35
1.20	5.9	7.8	10.5	11.8	14.0	16.1	20	23	27	31
1.10	5.2	7.0	9.0	10.8	13.0	15.4	18.2	21	24	27
1.00	4.7	6.1	8.0	9.4	11.5	13.5	15.5	17.5	20	23
0.90	4.1	5.5	7.1	8.2	10.0	11.8	14.0	16.0	18.2	21
0.85	3.9	5.1	6.6	7.7	9.3	10.8	12.8	14.8	17.0	19.3
0.80	3.5	4.7	6.1	7.0	8.5	10.0	11.8	13.5	15.5	17.5
0.75	3.3	4.3	5.6	6.5	7.8	9.0	10.7	12.4	14.0	16.0
0.70	3.0	3.9	5.1	5.9	7.1	8.3	9.7	11.0	12.9	14.7
0.65	2.8	3.6	4.7	5.4	6.5	7.5	8.7	10.0	11.6	13.2
0.60	2.5	3.2	4.2	4.8	5.8	6.8	7.8	9.0	10.3	12.0
0.55	2.3	2.9	3.8	4.3	5.2	6.0	7.0	8.0	9.2	10.5
0.50	2.0	2.6	3.4	3.8	4.6	5.3	6.3	7.1	8.2	9.2
0.45	1.8	2.3	2.9	3.3	4.0	4.6	5.2	5.9	6.7	7.6
0.40	1.5	1.9	2.5	2.9	3.4	3.9	4.5	5.2	5.9	6.7

温度電流特性

■ NCHW1 線径・温度・電流表

[アンペア]

線 径 [mm]	温 度 [°C]									
	200	300	400	500	600	700	800	900	1000	1100
0.35	1.26	1.60	2.1	2.5	2.9	3.3	3.7	4.3	4.8	5.5
0.32	1.13	1.45	1.86	2.2	2.6	2.9	3.4	3.9	4.4	4.9
0.29	1.00	1.30	1.65	1.90	2.3	2.6	3.0	3.4	3.8	4.3
0.26	0.88	1.13	1.45	1.70	2.0	2.3	2.6	2.9	3.3	3.7
0.23	0.76	1.00	1.25	1.45	1.70	1.90	2.2	2.5	2.8	3.2
0.20	0.64	0.84	1.05	1.21	1.42	1.63	1.85	2.1	2.4	2.6
0.18	0.56	0.74	0.92	1.06	1.25	1.42	1.62	1.85	2.0	2.3
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

直線上の電熱線を空気中に水平に張った場合の数値です。

■ NCHW1 以外の電熱線に対する換算表

種 類	換算率
NCHW2	0.96
FCHW1	0.76
FCHW2	0.88

※ NCHW1 以外の電熱線の電流値を求める場合には、上記表の換算率を乗じて求められます。