



Alloys : FCH1・No30 (Fe-Chrome Heating Wire Type 1)

Characteristic

Outstanding performance on high temperature application.

Material are rugged and provides stability.

JIS	JIS Code	Resistivity [$\mu\Omega\text{m}$]	Average TCR [$\times 10^{-6}/^{\circ}\text{C}$]
FCH1	C 2520	1.42 \pm 0.06	* 80 (20~1000 $^{\circ}\text{C}$)
GFC142	C 2532		

	Thermal expansion $\times 10^{-6}/^{\circ}\text{C}$	Specific Heat J/g \cdot K (20 $^{\circ}\text{C}$)	Thermal Conductivity w/m \cdot K	Density g/cm ³ (20 $^{\circ}\text{C}$)	Melting Point $^{\circ}\text{C}$	Max operating temperature $^{\circ}\text{C}$
	15	0.46	13	7.20	1520	1200

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

Increase on resistance on temperature

$^{\circ}\text{C}$	20	100	200	300	400	500	600	700	800	900	1000	1100	1200
係数	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	Style	Dimension (mm)	
FCHW1	Wire	$\phi 6.00 \sim 0.16$	
No.30	Wire	$\phi 6.00 \sim 0.08$	
FCHR1	Ribbon	t=2.90~0.1	w=40~0.4

Fe-Chrome Heating Wire 【Resistance · Length · Weight】

Alloys FCHW1 · No.30	Resistivity (23°CμΩm) 1.42±0.06
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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	0.0502	4.91	204
5.50	±0.063	23.76	±5	0.0598	5.85	171
5.00	±0.063	19.64	±5	0.0723	7.07	141
4.50	±0.063	15.90	±5	0.0893	8.73	115
4.00	±0.063	12.57	±5	0.113	11.1	90.5
3.50	±0.050	9.621	±5	0.148	14.4	69.3
3.20	±0.050	8.042	±5	0.177	17.3	57.9
2.90	±0.050	6.605	±5	0.215	21.0	47.6
2.60	±0.040	5.309	±5	0.267	26.2	38.2
2.30	±0.040	4.155	±5	0.342	33.4	29.9
2.00	±0.040	3.142	±5	0.452	44.2	22.6
1.80	±0.040	2.545	±5	0.558	54.6	18.3
1.60	±0.032	2.011	±5	0.706	69.1	14.5
1.50	±0.032	1.767	±5	0.804	78.6	12.7
1.40	±0.032	1.539	±5	0.922	90.2	11.1
1.30	±0.032	1.327	±5	1.07	105	9.56
1.20	±0.025	1.131	±5	1.26	123	8.14
1.10	±0.025	0.9503	±6	1.49	146	6.84
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

