



Alloys : CN 5 (Copper-Nickel Resistance Wire Type 5)

Characteristic

Outstanding resistance to corrosion and can be operated to 200°C.

Non magnetic and material are easy to process.

Suitable for Load Heater, Floor Heater, Electrical fuse

JIS	JISCode	Electrical resistivity [$\mu\Omega\text{m}$]	Average TCR [$\times 10^{-6}/^{\circ}\text{C}$]
GCN5	C 2532	0.05 ± 0.0075	* 1300 (23~100°C)

Thermal expansion coefficient $\times 10^{-6}/^{\circ}\text{C}$	Density g/cm^3 (20°C)	Melting Point $^{\circ}\text{C}$	Max operating temperature $^{\circ}\text{C}$
17.5	8.9	1080	200

Chemical Compositon (%)	Mn	Ni	Cu+Ni+Mn
	≤ 1.5	0.5~3	≥ 99

Alloys	Type	Diamter (mm)	
CN 5W	Wire	$\phi 6.00 \sim 0.06$	
CN 5R	Ribbon	$t=2.90 \sim 0.05$	$w=40 \sim 0.4$ (

Copper Nickel Resistance Wire **[Resistance • Length • Weight]**

Alloys CN 5W	Resistivity (23°C μΩm) 0.05±0.0075
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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	0.00177	3.97	252
5.50	±0.080	23.76	±5	0.00210	4.73	211
5.00	±0.080	19.64	±5	0.00255	5.72	175
4.50	±0.080	15.90	±5	0.00314	7.06	142
4.00	±0.080	12.57	±5	0.00398	8.94	112
3.50	±0.080	9.621	±5	0.00520	11.7	85.6
3.20	±0.060	8.042	±5	0.00622	14.0	71.6
2.90	±0.060	6.605	±5	0.00757	17.0	58.8
2.60	±0.060	5.309	±5	0.00942	21.2	47.3
2.30	±0.050	4.155	±5	0.0120	27.0	37.0
2.00	±0.050	3.142	±5	0.0159	35.8	28.0
1.80	±0.050	2.545	±5	0.0196	44.2	22.6
1.60	±0.040	2.011	±5	0.0249	55.9	17.9
1.50	±0.040	1.767	±5	0.0283	63.6	15.7
1.40	±0.040	1.539	±5	0.0325	73.0	13.7
1.30	±0.040	1.327	±5	0.0377	84.7	11.8
1.20	±0.040	1.131	±5	0.0442	99.3	10.1
1.10	±0.030	0.9503	±6	0.0526	118	8.46
1.00	±0.030	0.7854	±6	0.0637	143	6.99
0.90	±0.030	0.6362	±6	0.0786	177	5.66
0.85	±0.030	0.5675	±6	0.0881	198	5.05
0.80	±0.030	0.5027	±6	0.0995	224	4.47
0.75	±0.025	0.4418	±6	0.113	254	3.93
0.70	±0.025	0.3848	±6	0.130	292	3.43
0.65	±0.025	0.3318	±6	0.151	339	2.95
0.60	±0.025	0.2827	±6	0.177	397	2.52
0.55	±0.020	0.2376	±7	0.210	473	2.11
0.50	±0.020	0.1964	±7	0.255	572	1.75
0.45	±0.020	0.1590	±7	0.314	706	1.42
0.40	±0.015	0.1257	±7	0.398	894	1.12

