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# Ni

## Pure Nickel Wire

**TOKYO RESISTANCE WIRE CO., LTD.**

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# Alloys : Ni (Pure Nickel Wire)

[JIS H 4554]

Good corrosion resistance and resistance to corrosion by neutral salt and alkaline solution.

Large temperature coefficient of electrical resistance.

Used as resistance material for temperature-sensitive elements such as resistance thermometers and hygrometers, and as resistance wire for temperature compensation.

JIS	JIS Code	Electrical Resistivity [ $\mu\Omega\text{m}$ ]	Average TCR [ $\times 10^{-6}/^{\circ}\text{C}$ ]
Ni	NW2200 NW2201	* 0.095 $\pm$ 0.015	* 4,500

(\* )Reference value

Volume resistivity and average temperature coefficient may vary depending on the base material manufacturer. Please contact us.

JIS	JIS Code	Thermal Expansion Coefficient $\times 10^{-6}/$	Specific Heat J/g $\cdot$ K (20 $^{\circ}$ C)	Melting Point $^{\circ}$ C	Max Operating Temperature $^{\circ}$ C
NW2200	Ni99.0	15.0	8.90	1400	400
NW2201					
	Ni99.6				

Chemical Composition	Alloy Number	C	Si	Mn	Ni	Cu	Fe	S
(%)	NW2200	$\leq 0.15$	$\leq 0.3$	$\leq 0.3$	$\geq 99$	$\leq 0.2$	$\leq 0.4$	$\leq 0.01$
	NW2201	$\leq 0.02$	$\leq 0.3$	$\leq 0.3$	$\geq 99$	$\leq 0.2$	$\leq 0.4$	$\leq 0.01$
	Ni99.6	$\leq 0.02$	$\leq 0.3$	$\leq 0.3$	$\geq 99.6$	$\leq 0.2$	$\leq 0.3$	$\leq 0.01$

Alloys	Type	Diameter (mm)
NiW	Wire	$\phi 6.00 \sim 0.02$
NiR	Ribbon	Please consult
NiP	Plate	Please consult
Ni	Foil	Please consult

# Ni (Pure Nickel Wire)

(\*) Reference value Depends on nickel content

## Resistance·Length·Weight

Wire Electrical Resistivity (23°CμΩm) \*0.095±0.015

Please contact us as the characteristics of the material vary depending on the manufacturer.

Diameter (mm)	Tolerance (mm)	Cross section (mm <sup>2</sup> )	Resistance Tolerance (%)	DC Resistance (Ω/m)	Length (m/Kg)	Weight (g/m)
6.00	±0.060	28.27	±5	0.00336	3.97	252
5.50	±0.060	23.76	±5	0.00400	4.73	211
5.00	±0.060	19.64	±5	0.00484	5.72	175
4.50	±0.050	15.90	±5	0.00597	7.06	142
4.00	±0.050	12.57	±5	0.00756	8.94	112
3.50	±0.050	9.621	±6	0.00987	11.7	85.6
3.20	±0.040	8.042	±6	0.0118	14.0	71.6
2.90	±0.040	6.605	±6	0.0144	17.0	58.8
2.60	±0.040	5.309	±6	0.0179	21.2	47.3
2.30	±0.040	4.155	±6	0.0229	27.0	37.0
2.00	±0.030	3.142	±6	0.0302	35.8	28.0
1.80	±0.030	2.545	±6	0.0373	44.2	22.6
1.60	±0.030	2.011	±7	0.0472	55.9	17.9
1.50	±0.030	1.767	±7	0.0538	63.6	15.7
1.40	±0.030	1.539	±7	0.0617	73.0	13.7
1.30	±0.030	1.327	±7	0.0716	84.7	11.8
1.20	±0.030	1.131	±7	0.0840	99.3	10.1
1.10	±0.030	0.9503	±7	0.100	118	8.46
1.00	±0.030	0.7854	±7	0.121	143	6.99
0.90	±0.030	0.6362	±7	0.149	177	5.66
0.85	±0.030	0.5675	±7	0.167	198	5.05
0.80	±0.020	0.5027	±7	0.189	224	4.47
0.75	±0.020	0.4418	±7	0.215	254	3.93
0.70	±0.020	0.3848	±7	0.247	292	3.43
0.65	±0.020	0.3318	±7	0.286	339	2.95
0.60	±0.020	0.2827	±7	0.336	397	2.52
0.55	±0.020	0.2376	±8	0.400	473	2.11
0.50	±0.010	0.1964	±8	0.484	572	1.75
0.45	±0.010	0.1590	±8	0.597	706	1.42
0.40	±0.010	0.1257	±8	0.756	894	1.12
0.35	±0.010	0.09621	±8	0.987	1168	0.856
0.32	±0.010	0.08042	±8	1.18	1397	0.716
0.29	±0.010	0.06605	±8	1.44	1701	0.588
0.26	±0.010	0.05309	±8	1.79	2116	0.473
0.23	±0.010	0.04155	±8	2.29	2704	0.370
0.20	±0.006	0.03142	±9	3.02	3577	0.280
0.18	±0.006	0.02545	±9	3.73	4415	0.226
0.16	±0.006	0.02011	±9	4.72	5588	0.179
0.15	±0.006	0.01767	±9	5.38	6358	0.157
0.14	±0.006	0.01539	±9	6.17	7299	0.137
0.13	±0.006	0.01327	±9	7.16	8465	0.118
0.12	±0.006	0.01131	±9	8.40	9935	0.101
0.11	±0.006	0.009503	±9	10.0	11823	0.0846
0.10	±0.006	0.007854	±9	12.1	14306	0.0699
0.09	±0.005	0.006362	±9	14.9	17662	0.0566
0.08	±0.005	0.005027	±9	18.9	22353	0.0447
0.07	±0.005	0.003848	±10	24.7	29196	0.0343
0.06	±0.004	0.002827	±10	33.6	39739	0.0252
0.05	±0.004	0.001964	±10	48.4	57224	0.0175
0.04	±0.003	0.001257	±12	75.6	94622	0.0106
0.03	±0.003	0.0007069	±12	134	168217	0.00594
0.02	±0.002	0.0003140	±12	303	357833	0.00279

(\*) Reference value