

28

Ni

58.6934

Nickel

Nickel 201

Electrical, Electronic Nickel

DESCRIPTION

Nickel 201 is a commercially pure wrought nickel with a chemical composition similar to Nickel 200 except for the carbon content. Carbon is held to a maximum of 0.02% and is not subject to embrittlement by precipitated carbon or graphite at high temperatures. It is the preferred over Nickel 200 for applications exposed to temperatures above 600°F. Due to its low base hardness and low work-hardening rate, Nickel 201 is suited for spinning and cold forming operations.

APPLICATIONS

Caustic evaporators; Combustion boats; Plater bars; Electronic parts.

TYPICAL PHYSICAL PROPERTIES

Density	lb/in. ³ @68 °F	0.321
	g/cm ³ @20 °C	8.88
Curie Temp	°F	680
	°C	360
Melting Point	°F	2635
	°C	1446
Specific Heat	BTU/lb °F @ 70°F	0.106
Thermal Coefficient Expansion	μ in./in · °F (70 to 200°F)	7.4

Source: ASM Specialty Handbook Nickel, Cobalt and Their Alloys, Nickel 201

TYPICAL MECHANICAL PROPERTIES

Ultimate Tensile Strength	ksi	58.5
	MPa	403
Yield Strength (0.2% offset)	ksi	15.0
	MPa	103
Elongation in 50 mm	% in 2 in.	50
Modulus of Elasticity	psi	30x10 ⁶
	GPa	207
Hardness Annealed Sheet	HRB	55

Source: ASM Specialty Handbook Nickel, Cobalt and Their Alloys, Nickel 201; Nickel and Its Alloys, p.42

TYPICAL TENSILE PROPERTIES - ANNEALED

Temperature		Tensile Strength		Yield Strength (0.2% offset)		Elongation
°C	°F	MPa	ksi	MPa	ksi	%
20	68	403	58.5	103	15.0	50
93	200	387	56.1	106	15.4	45
149	300	372	54.0	99	14.4	46
204	400	372	54.0	102	14.8	44
260	500	372	54.0	101	14.6	41
316	600	362	52.5	105	15.3	42
371	700	325	47.2	97	14.1	53
427	800	284	41.2	93	13.5	58
482	900	259	37.5	89	12.9	58
538	1000	228	33.1	83	12.1	60
593	1100	186	27.0	77	11.2	72
649	1200	153	22.2	70	10.2	74

Source: ASM Specialty Handbook Nickel, Cobalt and Their Alloys, Nickel 201 Table 8

THERMAL & ELECTRICAL PROPERTIES

Temperature		Thermal Conductivity		Electrical Resistivity
°C	°F	W/m · K	Btu/ft · h · °F	nΩ · m
-196	-320	...	...	16.6
-184	-300	95.5	55.2	...
-73	-100	...	...	48.2
-18	0	90.9	52.5	71.5
27	80	...	...	84.8
38	100	...	...	91.4
93	200	73.8	42.6	118.0
204	400	66.4	38.4	182.9
316	600	58.8	33.9	266.0
427	800	56.5	32.6	347.4
538	1000	59.1	34.1	385.7
649	1200	61.7	35.6	420.6
760	1400	64.2	37.1	455.5
871	1600	66.8	38.6	483.8
982	1800	69.2	40.0	512.0
1093	2000	...	...	523.7

Source: ASM Specialty Handbook Nickel, Cobalt and Their Alloys, Nickel 201 Table 9 p.21

FORMS | SIZES AVAILABLE

Round Bar | Rod	0.062" - 2.250"
Sheet	0.030" - 0.125"
Strip | Coil	0.010" - 0.0625"

Listed above are our standard stock items. Our inventory fluctuates based on market demands. If you do not see the size or form you require, please call us.

CHEMISTRY %

Nickel 99.0 min., Copper 0.25 max., Iron 0.40 max., Manganese 0.35 max., Carbon 0.02 max., Silicon 0.35 max., Sulfur 0.01 max.
Source: ASTM B160-05 (2019), Table 2 Nickel UNS N02200; ASTM B162-99 (2019), Table 2 Nickel UNS N02200

SPECIFICATIONS

AMS 5553 (sheet and strip), ASTM B160 (Bar, Rod) ASTM B162 (Plate, Sheet, Strip) UNS N02201

769 Susquehanna Avenue, Franklin Lakes, NJ 07417
PH: 201.891.4003 | Toll Free: 800.335.6827



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Forms: Plate, Round Bar, Sheet, Strip/Coil, Wire
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Free-Cut Invar "36"® Alloy

Forms: Round Bar, Wire

Invar "36"® Alloy

Forms: Plate, Sheet
Trade Names: Pernifer® 36, NILO® 36, Invar

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Refractory Metals and Alloys

Ed Fagan Inc. is your leading source for quality refractory metals and alloys. We stock Tungsten, Molybdenum and its alloys in various forms and sizes manufactured from Plansee Group.

Molybdenum

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Molybdenum Lanthanum Oxide (ML)

Forms: Sheet – Stress Relieved, Recrystallized

Molybdenum TZM

Forms: Plate, Round Bar

Niobium

Forms: Plate, Round Bar, Sheet, Strip/Coil, Wire

Rhenium

Forms: Plate, Round Bar, Sheet, Strip/Coil

Tantalum

Forms: Round Bar, Sheet

Tungsten

Forms: Parts (To Specification), Plate, Precision Cut Wire, Round Bar, Sheet

Tungsten Alloy

Blank Forms: Flats, Parts, Plate/Sheet, Rod, Shapes

Soft Magnetic Alloys | EMI Shielding & Laminations

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EFI Alloy 79

Forms: Rectangular Bar, Round Bar, Sheet, Strip/Coil, Wire
Trade Names: Hipernom, HyMu80®, Magnifer® 7904, Molypermalloy, Permalloy 80®

Hiperco® 50, Hiperco® 50A, Hiperco® 50 HS

Forms: Plate, Round Bar, Strip/Coil

Carpenter VimVar Core Iron

Forms: Plate, Round Bar

Electrical & Electronic Nickels

Ed Fagan Inc. supplies select, commercially pure grades of Nickel in various forms and sizes.

Electronic Nickels

200/201/205/233/270

Forms: Round Bar, Sheet, Strip/Coil, Wire

Alloys and Metals We Distribute

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• Titanium – CP, 6 Al-4V

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