

Nickel 200

Electrical, Electronic Nickel

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28
Ni

Nickel

Nickel 200 is a commercially pure wrought nickel with good mechanical properties and excellent resistance to many corrosive environments. At high temperatures, Nickel 200 retains much of its strength and in contrast, it is tough and ductile at subzero temperatures.

APPLICATIONS

Transducers; Fuel cells; Battery plates; Electronic parts; Aerospace equipment.

Typical Physical Properties

Density	lb/in ³ @ 68°F	0.321
	g/cm ³ @ 20°C	8.89
Curie Temp	°F	680
	°C	360
Melting Point	°F	2365
	°C	1446
Specific Heat	BTU/lb @ (70°F)	0.106
Thermal Expansion	(32 to 212°F) in 10 ⁻⁶ in/in/°F	7.4

Typical Mechanical Properties*

		Annealed Sheet (Hot + Cold Rolled)	Annealed Rods + Bars
Tensile Strength	psi	5500	5500
	MPa	380	380
Yield Strength (0.2% offset)	ksi	15000	15000
	MPa	100	105
Elongation in 50mm	% in 2 in.	40	40
Modulus of Elasticity	ksi	29.6 × 10 ⁶	
	GPa	204	

*at room temp.
Source: ASTM A753 | Carpenter Electrification high Permeability 49 Data sheet v. 5/20

Thermal & Electrical Properties- Annealed

Temperature		Mean Linear Expansion(a)		Thermal Conductivity		Electrical Resistivity
°C	°F	µm/m • K	µin./in. • °F	W/m • K	Btu/ft • h • °F	nΩm
-253	-423	8.5	4.7	---	---	---
-184	-300	10.4	5.8	---	---	27
-129	-200	11.2	6.2	77.2	44.6	43
-73	-100	11.3	6.3	---	---	58
-18	0	---	---	72.1	41.7	80
21	70	---	---	---	---	95
93	200	13.3	7.4	67.1	38.8	126
204	400	13.9	7.7	61.3	35.4	188
316	600	14.4	8.0	56.3	36.5	273

(a) From 21 °C (70 °F) to temperature shown
Source: ASM Specialty Handbook Nickel, Cobalt and Their Alloys, Nickel 200, Table 6 p.20

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 0.15 max., Silicon 0.35 max., Sulfur 0.01 max.

Specifications

ASTM B160 (Bar, Rod) ASTM B162 (Plate, Sheet, Strip) UNS N02200

Source: ASTM B160-05 (2019), Table 2 Nickel UNS N02200; ASTM B162-99 (2019), Table 2 Nickel UNS N02200

Special Purpose Alloys & Metal From Stock

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Just-In-Time-Delivery

All of our standard stock items can be shipped within 24-hours of your order confirmation and most are shipped the same day. All materials certified with shipment. For special orders and non-stock materials, contact our sales team for our competitive pricing and delivery lead times

Controlled Expansion | Glass Sealing

EFINEA Supplies the highest quality metals and alloys including materials from Carpenter Technology Corp.

Kovar® | ASTM F15® Alloy

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

Trade Names: Kovar, Pernifer®, 2918, NILO K®, DilverP1®

Alloy 42 / 46 / 48 / 52

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

Trade Names: Pernifer®40, 46, 48, 50, NILO®42, 46, 48; Glass Sealing 42, 46, 48, 52

Free-Cut Invar "36"® Alloy

Forms: Round Bar/Rod

Invar "36" Alloy

Forms: Plate Sheet

Trade Names: Pernifer® 36, NILO®36, Invar

Super Invar 32-5®

Forms: Plate, Round Bar/Rod, Sheet

Refractory Metals & Alloys

EFINEA is your leading source for quality refractory metals & alloys. We stock DFARS Molybdenum, ML/MLS/MLR, Molybdenum TZM Tantalum & Tungsten manufactured from Plansee

Molybdenum

Forms: Plate, Round Bar/Rod, Sheet/Coiled Sheet, Threaded Rod/Nuts, Wire

Molybdenum Lanthanum Oxide (ML)

Forms: Sheet-Stress Relieved, Recrystallized

Molybdenum TZM

Forms: Plate, Round Bar/Rod, Sheet

Niobium

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

Rhenium

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

Tantalum

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

Tungsten

Forms: Plate, Precision Cut wire, Round Bar/Rod, Sheet

Tungsten Alloys

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

Soft Magnetic Alloys | EMI Shielding & Laminations

EFINEA is a distributor of "EMI shielding alloys" for VDM Metals GmbH the world's leading producer of these alloys.

EFINEA Alloy 50

Forms: Round Bar/Rod, Square Bar, Strip/Coil, Wire Rod

Trade Names: High Permeability 49®, Mangnifer®50

EFINEA Alloy 79

Forms: Rectangular Bar, Round Bar/Rod, Sheet, Strip/Coil

Trade Names: Hipernom, HyMu80 Magnifer®7904, Molypermalloy, Permalloy 80®

Hiperco®50

Forms: Strip/Coil

Hiperco®50A

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

Hiperco®50 HS

Forms: Strip/Coil

Core Iron (Pure Iron)

Forms: Round Bar/Rod, Plate

Trade Names: Electrical Iron®, Alliedpureiron®

Electrical & Electronic Nickels

EFINEA supplies select, Commercially pure grades of Nickel in various forms and sizes.

Electronic Nickels

200/201/205/233/270

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

Copper Metals

EFINEA supplies select, Commercially pure grades of Copper in Coil Form

Copper OFHC 101/102

Nickel-Silver 770

Cupro-Nickel 715 (CuNi 70/30)

Forms: Coil

Stainless Steels & Other Alloys

EFINEA supplies select aircraft quality grades of Stainless Steel available in various forms and sizes.

17-4PH (Type 630)

15-5PH Vac Melt

300 Grade Stainless Steel Coils

Forms: Round Bar/Coils