



28

**Ni**

58.6934

Nickel

# Nickel 200

## Electrical, Electronic Nickel

### DESCRIPTION

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 <sup>3</sup> @68°F	0.321
	g/cm <sup>3</sup> @20°C	8.89
Curie Temp	°F	680
	°C	360
Melting Point	°F	2635
	°C	1446
Specific Heat	BTU/lb @ (70°F)	0.106
Thermal Coefficient Expansion	(32 to 212°F) in 10 <sup>-6</sup> in/in/°F	7.4

Source: ASM Specialty Handbook, Nickel, Cobalt, and Their Alloys, Nickel 200

### TYPICAL MECHANICAL PROPERTIES\*

		Annealed Sheet (Hot + Cold Rolled)	Annealed Rods + Bars
Tensile Strength, Min.	psi	55000	55000
	MPa	380	380
Yield Strength (0.2% offset)	psi	15000	15000
	MPa	100	105
Elongation in 50 mm	% in 2 in.	40	40
Modulus of Elasticity, Tension	psi	29.6 x 10 <sup>6</sup>	
	GPa	204	

\* At room temperature.

Source: ASTM B160 Table 1, ASTM B162 Table 3, ASM Specialty Handbook, Nickel, Cobalt, and Their Alloys, Nickel 200

### 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.

### 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	nΩ2m
-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

### 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.

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

### SPECIFICATIONS

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

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# Special Purpose Alloys & Metals From Stock

**efi** ED FAGAN INC.  
Special Purpose Alloys

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Ed Fagan Inc. 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, 50;  
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 and Alloys

Ed Fagan Inc. 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, Wire

### 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

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

### EFI Alloy 50

Forms: Round Bar/Rod, Square Bar, Strip/Coil, Wire Rod  
Trade Names: High Permeability 49®, Magnifer® 50

### EFI 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

### Carpenter VimVar Core Iron

Forms: Round Bar/Rod

## 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/Rod, Sheet, Strip/Coil, Wire

## Alloys and Metals We Distribute

Corrosion Resistant Alloys • High-Temperature Alloys • Stainless Steel  
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