

Nickel 201

Electrical, Electronic Nickel

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28
Ni

Nickel

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 @ (70°F)	0.106	
Thermal Coefficient Expansion	μin./in · °F (70 to 200°F)	7.4	

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	33.1	12.1	60
593	1100	186	27.0	27.0	11.2	72
649	1200	153	22.2	22.2	10.2	74

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

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.

Typical Mechanical Properties			
Ultimate Tensile Strength	ksi	58.5	
	MPa	403	
Yield Strength (0.2% offset)	ksi	15.0	
	MPa	103	
Elongation in 50mm	% in 2 in.	50	
Modulus of Elasticity	psi	30 x 10 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 DC Magnetic 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

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 N022201



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

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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