Nickel 200 / 201 Cold-Drawn Bar (UNS N02200 / N02201) — Technical Data Sheet

Cold-Drawn Bar supplied to ASTM B160 and ASME SB160 in UNS N02200 and N02201 — values are minimum requirements; the ordered condition and section size govern final acceptance.

Chemical Composition — ASTM shared composition table

Element	Nickel 200 (UNS N02200)	Nickel 201 (UNS N02201)
Nickel (Ni), min.	99.0%	99.0%
Copper (Cu), max.	0.25%	0.25%
Iron (Fe), max.	0.40%	0.40%
Manganese (Mn), max.	0.35%	0.35%
Carbon (C), max.	0.15%	0.02%
Silicon (Si), max.	0.35%	0.35%
Sulfur (S), max.	0.01%	0.01%

Minimum Room-Temperature Mechanical Properties (ASTM B160)

Condition and Section	Tensile Strength, min.	Yield Strength (0.2%), min.	Elongation, min.
Nickel 200, cold-worked, rounds ≤ 25.4 mm (1 in.)	≥80 ksi (550 MPa)	≥60 ksi (415 MPa)	10%
Nickel 200, cold-worked, rounds 25.4–101.6 mm (1–4 in.)	≥75 ksi (515 MPa)	≥50 ksi (345 MPa)	15%
Nickel 200, cold-worked, squares, hexagons and rectangles	≥65 ksi (450 MPa)	≥40 ksi (275 MPa)	25%
Nickel 200, hot-worked, all sections and sizes	≥60 ksi (415 MPa)	≥15 ksi (105 MPa)	35%
Nickel 200, annealed, rods and bars of all sizes	≥55 ksi (380 MPa)	≥15 ksi (105 MPa)	40%
Nickel 201, hot-worked, all sections and sizes	≥50 ksi (345 MPa)	≥10 ksi (70 MPa)	40%
Nickel 201, annealed, all products and sizes	≥50 ksi (345 MPa)	≥10 ksi (70 MPa)	40%

Physical Properties (Approx.)

Property	Nickel 200 (N02200)	Nickel 201 (N02201)
Density	Approx. 8.89 g/cm³	Approx. 8.89 g/cm³
Melting range	Approx. 1435–1446 °C	Approx. 1435–1446 °C
Specific heat at 20 °C	Approx. 456 J/kg·K	Approx. 456 J/kg·K
Curie temperature	Approx. 360 °C (680 °F)	Approx. 360 °C (680 °F)
Modulus of elasticity	Approx. 205 GPa	Approx. 207 GPa
Thermal conductivity at 20 °C	Approx. 70.3 W/m·K	Approx. 79.3 W/m·K
Electrical resistivity at 20 °C	Approx. 0.096 μΩ·m	Approx. 0.085 μΩ·m
Thermal expansion, 20–100 °C	Approx. 13.3 μm/m·K	Approx. 13.2 μm/m·K
Poisson's ratio	Approx. 0.29	Approx. 0.29
Magnetic behaviour	Ferromagnetic at room temperature	Ferromagnetic at room temperature

Standards and Designations

Standard	Product or Application
ASTM B160	Nickel rod and bar, UNS N02200 and N02201
ASME SB160	ASME counterpart for pressure equipment
DIN 17752	Nickel bar and rod, European procurement

Heat Treatment

Condition	Typical Treatment
Annealed	Held between 705 and 925 °C (1300–1697 °F), then cooled
Stress Relieved	705–870 °C (1300–1600 °F) where straightness or residual stress demands it
Custom Condition	Heat treatment according to the agreed specification

Surface Finishes (Cold-Drawn Bar)

Surface Condition	Typical Use
Cold Drawn	Drawn stock giving this cold-drawn bar close diameter control and a smooth skin.
Pickled	Acid cleaning descaled this cold-drawn bar after the anneal.
Rough Turned	A turned surface on this cold-drawn bar where the finishing cut comes later.

Typical Supply Dimensions — Cold-Drawn Bar

Product Form	Typical Supply	Length
Cold-Drawn Bar	6–100 mm dia.	Cut to length
Cold-Drawn Round Bar	6–100 mm dia.	Cut to length
Cold-Drawn Hex Bar	10–80 mm A/F	Cut to length
Cold-Drawn Square Bar	10–80 mm	Cut to length
Stress-Relieved Bar	6–80 mm dia.	Cut to length
Cold-Drawn Bright Bar	6–80 mm dia.	Cut to length
Custom Cold-Drawn Bar	To drawing	Custom

Values are for reference; the mill test certificate prevails for final acceptance. Dimensions, heat-treatment conditions, and surface finishes are confirmed at quotation.