

SPECIFICATIONS

Alloy:	Nickel 200
Composition (min):	Ni 99.0
Composition (max):	C 0.15, Cu 0.25, Fe 0.4, Mn 0.35, Si 0.35, S 0.01
Shape:	Round
Heat treatment:	Annealed (soft, 55000 psi)
Melting range:	1435 - 1446 °C (2615 - 2635 °F)
Curie temperature:	360 °C (680 °F)
Coefficient of expansion:	13.3 $\mu\text{m/m} \cdot ^\circ\text{C}$ (20 - 100°C) 7.4 x 10 ⁻⁶ in/in °F (70 - 212°F)
Modulus of rigidity:	81 kN/mm ² (11748 ksi)
Modulus of elasticity:	204 kN/mm ² (29588 ksi)
Density:	0.321 lbs/in ³ (8.89 g/cm ³)
Tensile strength:	400-500 N/mm ² (80,000 min psi, 58-73 ksi)
Specific heat:	456 J/kg $\cdot ^\circ\text{C}$ (0.109 Btu/lb $\cdot ^\circ\text{F}$)
Electrical resistivity:	9.6 MW $\cdot \text{cm}$ (58 ohm $\cdot \text{circ} \cdot \text{mil/ft}$)
Thermal conductivity:	70.2 W/m $\cdot ^\circ\text{C}$ (487 btu $\cdot \text{in/ft}^2 \cdot \text{h} \cdot ^\circ\text{F}$)



Nickel 200 is a ferromagnetic, commercially pure (99.6%) wrought Nickel with good mechanical properties over a wide range of temperatures, high ductility, and excellent resistance to many corrosives (in particular hydroxides). Ni 200 is used for a variety of processing equipment, particularly to maintain product purity in handling foods, synthetic fibers and alkalis.

It has roughly the strength of mild steel when annealed and can provide higher strength levels when in the "as rolled" condition. This alloy has a low annealed hardness and very low work-hardening rate that is desirable for cold forming operations such as deep drawing, spinning, coining, etc. It has been used in corrosion-resistant equipment such as caustic evaporators, spun anodes, combustion boats and laboratory crucibles, and electronic components where its excellent fabricating characteristics provide an advantage.

Nickel 200 exhibits good thermal and electrical properties. Its magnetostrictive properties (specifically significant length change when magnetized) make it ideal for use in sonic devices such as sonar or for control in ultrasonic welding.

APPLICATIONS

- Automotive screen and heating elements, lighting and lead wire
- Food processing
- Synthetic fiber processing (such as production of viscose rayon)
- Heat exchangers
- Chemical industries
- Electrical industries
- Manufacturing and handling of sodium hydroxide, particularly at temperatures above 300°C.
- Manufacturing of soap.
- Manufacturing of vinyl chloride monomer.
- Reactors and vessels in which fluorine is generated and reacted with hydrocarbons.
- Aniline hydrochloride production and in the chlorination of aliphatic hydrocarbons such as benzene, methane and ethane.
- Electrical and electronic parts

CORROSION RESISTANCE

Outstanding	Good	Not suitable for
Caustic alkalis up to and including the molten state.	Acid, alkaline, and neutral salt solutions. Most useful under reducing conditions.	Oxidizing salt solutions.

Can be used at temperatures up to 550°C in dry chlorine and hydrogen chloride. Depending on whether the solution is aerated or not, resistance to mineral acids varies according to temperature and concentration. Corrosion resistance is better in de-aerated acid.

DIMENSIONS, WEIGHT, & RESISTANCE

Gauge	Feet/lb.	Ohms/ft @ 68°F	Diameter (mm)	Diameter (in.)
26	1313	0.2373	0.40386	0.159
28	2090	0.3778	0.32004	0.0126
30	3318	0.6	0.254	0.01
32	5185	0.9375	0.2032	0.008
34	8364	1.511	0.16002	0.0063