NICKEL ALLOY

201 - 2.4068

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Nickel Alloy 201 is a commercially pure wrought nickel alloy, similar to Nickel Alloy 200 but with a lower carbon content. This reduction in carbon content helps to prevent embrittlement at elevated temperatures due to the formation of graphite. Like Nickel Alloy 200, Alloy 201 is primarily composed of nickel, with very low levels of other impurities. It is valued for its purity, corrosion resistance and thermal and electrical conductivity properties.

KEY FEATURES

- High thermal and electrical conductivity
- Excellent corrosion resistance
- Low gas content
- Good mechanical properties
- Ease of fabrication

CHEMICAL PROPERTIES

Nickel (Ni)	Iron (Fe)	Silicone (Si)	Manganese (Mn)	Copper (Cu)	Carbon (C)	Sulphur (S)
99%	**0.4%**	**0.35%**	**0.35%**	**0.25%**	**0.15%**	**0.01%**

MECHANICAL PROPERTIES

Tensile strength (N/mm²)	**380-550**
Yield strength (N/mm²)	**105-310**
Elongation (% in 4D)	**40-55**
Hardness - Rockwell (HRB) max	**45-65**
Hardness - Brinell (HB) max	**105-170**

PHYSICAL PROPERTIES

Density (kg/m³)		**8890**
Modulus of elasticity (Gpa)		**204**
Mean coefficient of thermal expansion	0-100ºC (µm/m/ºC)	**13.3**
	0-350ºC (µm/m/ºC)	**14.0**
	0-538ºC (µm/m/ºC)	**14.8**
Thermal conductivity	at 100ºC (W/m.K)	**60.0**
	at 500ºC (W/m.K)	**39.0**
Specific Heat 0-100ºC (J/kg.K)		**444**
Electrical resistivity (nΩ.m)		**90**
Melting point (ºC)		**1445**

MARKET SECTORS

Electrical Industry
Contacts, connectors, anodes, cathodes, heating elements

Chemical Processing
Reactors, vessels, heat exchangers, valves, piping

Oil & Gas Industry
Downhole equipment, valves, fittings, pipelines

Marine Equipment
Shipbuilding, seawater piping systems, propeller shafts, pumps

Food & Beverage Industry
Cookware, brewing vats, food processing machinery

Aerospace Industry
Aircraft components, aerospace structures, gas turbines