

# NICKEL ALLOY

## 200 - 2.4066

# BORNMORE METALS



## 200 - 2.4066

Nickel Alloy 200, also known as UNS N02200 or W.Nr. 2.4066, is a solid-solution alloy with a high nickel content (>99%). It is commercially pure and has a microstructure consisting primarily of nickel atoms arranged in a face-centered cubic (FCC) crystal structure. The absence of significant alloying elements gives it unique properties suitable for a wide range of applications where corrosion resistance, thermal stability and electrical conductivity are critical.

### KEY FEATURES

- High corrosion resistance
- Excellent electrical conductivity
- Superior thermal conductivity
- Good mechanical properties
- Ease of fabrication

### CHEMICAL PROPERTIES

Nickel (Ni)	Iron (Fe)	Silicone (Si)	Manganese (Mn)	Carbon (C)	Sulphur (S)
<b>99%</b>	<b>0.4%</b>	<b>0.35%</b>	<b>0.35%</b>	<b>0.15%</b>	<b>0.01%</b>

### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	<b>380-520</b>
Yield strength (N/mm <sup>2</sup> )	<b>105-310</b>
Elongation (% in 4D)	<b>40-55</b>
Hardness - Rockwell C (HRC) max	<b>55</b>
Hardness - Brinell (HB) max	<b>85</b>

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	<b>8890</b>	
Modulus of elasticity (Gpa)	<b>204</b>	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	<b>13.3</b>
	0-350°C (µm/m/°C)	<b>14.0</b>
	0-538°C (µm/m/°C)	<b>14.8</b>
Thermal conductivity	at 100°C (W/m.K)	<b>65.0</b>
	at 500°C (W/m.K)	<b>45.0</b>
Specific Heat 0-100°C (J/kg.K)	<b>444</b>	
Electrical resistivity (nΩ.m)	<b>90</b>	
Melting point (°C)	<b>1440</b>	

### 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