

# NICKEL ALLOY

## 625 - 2.4856



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Nickel Alloy 625, also known by its material number 2.4856, is a corrosion-resistant nickel-chromium-molybdenum alloy with an addition of niobium, with significant strength and toughness. It is often referred to simply as Inconel 625, and it exhibits excellent resistance to a wide range of corrosive environments, making it suitable for various applications.

### KEY FEATURES

- Highly corrosion resistant
- Excellent resistance to oxidation
- Resistance to pitting and crevice corrosion
- High temperature strength

### CHEMICAL PROPERTIES

Chromium (Cr)	Molybdenum (Mo)	Iron (Fe)	Niobium (Nb)	Cobalt (Co)	Manganese (Mn)	Silicone (Si)	Carbon (C)	Nickel (Ni)
<b>21-23%</b>	<b>8-10%</b>	<b>5%</b>	<b>3.2-3.8%</b>	<b>1%</b>	<b>0.5%</b>	<b>0.4%</b>	<b>0.03%</b>	<b>rest</b>

### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	<b>827</b>
Yield strength (N/mm <sup>2</sup> )	<b>413</b>
Elongation (% in 4D)	<b>30</b>
Hardness - Rockwell (HRB) max	<b>100-110</b>
Hardness - Brinell (HB) max	<b>320</b>

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	<b>8440</b>	
Modulus of elasticity (Gpa)	<b>205</b>	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	<b>12.8</b>
	0-350°C (µm/m/°C)	<b>13.4</b>
	0-538°C (µm/m/°C)	<b>14.1</b>
Thermal conductivity	at 100°C (W/m.K)	<b>9.8</b>
	at 500°C (W/m.K)	<b>12.7</b>
Specific Heat 0-100°C (J/kg.K)	<b>410</b>	
Electrical resistivity (nΩ.m)	<b>125</b>	
Melting point (°C)	<b>1350</b>	

### MARKET SECTORS



**Marine Equipment**

Propeller blades, seawater piping systems, valves



**Chemical Processing**

Reactors, vessels, piping, heat exchangers



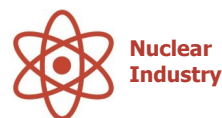
**Oil & Gas Industry**

Equipment for sour gas, downhole tubing and casing



**Power Generation**

Steam turbine shroud rings, seals, components



**Nuclear Industry**

Reactors components, fuel handling systems



**Aerospace Industry**

Ducting systems, exhaust systems, rocket motors