

Key Features

- High Corrosion Resistance
- Temperature Stability
- High Strength and Toughness
- Good weldability

Common Applications

- Aerospace
- Marine
- Chemical Processing
- Nuclear

Material Description

Inconel 625 is a versatile nickel-chromium superalloy known for its exceptional corrosion and oxidation resistance, high strength, and stability at both low and elevated temperatures. Its unique composition allows it to perform well in extreme environments, making it ideal for applications in aerospace, marine, chemical processing, and nuclear industries. Inconel 625's ability to withstand aggressive environments and maintain mechanical integrity under stress ensures its widespread use in critical components such as turbine engines, heat exchangers, and reactor vessels. Its weldability further enhances its application potential, allowing for the fabrication of complex structures without compromising quality.

Chemical Composition (%)

	Ni	Cr	Mo	Nb	Fe	C	Si	Mn	P	S
Min.	58	20	8	3.15						
Max.	63	23	10	4.15	5	0.1	0.5	0.5	0.015	0.01

Mechanical Properties

Ultimate Tensile Strength	120 - 160 KSI
Tensile Yield Strength	60 - 110 KSI
Hardness	Brinell 175-240
Elongation at Break	30%

Physical Properties

Density	0.305 lb/in ³ (8.44 g/cm ³)
Thermal Conductivity	11.4 - 21.3 W/m.K
Melting Point	2,350-2,460°F (1,290-1,350°C)
Modulus of Elasticity	29,000 KSI (200 GPa)

Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

InstaVoxel™ - On-Demand Manufacturing Expert

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InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



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