Nickel Alloys: Inconel 625 and Inconel 718

Designations: Inconel 625: UNS N06625 / 2.4856 | Inconel 718: UNS N07718 / 2.4668

Applicable standards: ASTM B446, B443, B444, B637; AMS 5662

Product Description

Ochnology is a manufacturer and supplier of Inconel 625 (UNS N06625 / 2.4856) and Inconel 718 (UNS N07718) in bar, plate, pipe and forgings, to ASTM B446, B443 and B444. Inconel 625 combines about 20–23% Cr, 8–10% Mo and 3.15–4.15% Nb for strong corrosion and pitting resistance. Inconel 718 is age-hardenable for high strength up to about 650 °C. Used for subsea valves, ball valves, offshore equipment, heat exchangers and aerospace components.

Chemical Composition (% by weight)

Element	Inconel 625 (N06625)	Inconel 718 (N07718)
Nickel (Ni)	≥ 58.0	50.0–55.0
Chromium (Cr)	20.0–23.0	17.0–21.0
Molybdenum (Mo)	8.0–10.0	2.80–3.30
Niobium + Tantalum (Nb+Ta)	3.15–4.15	4.75–5.50
Iron (Fe)	≤ 5.0	Balance
Titanium (Ti)	≤ 0.40	0.65–1.15
Aluminium (Al)	≤ 0.40	0.20–0.80
Cobalt (Co)	≤ 1.0	≤ 1.0
Carbon (C)	≤ 0.10	≤ 0.08
Manganese (Mn)	≤ 0.50	≤ 0.35
Silicon (Si)	≤ 0.50	≤ 0.35
Phosphorus (P)	≤ 0.015	≤ 0.015
Sulphur (S)	≤ 0.015	≤ 0.015

Mechanical and Physical Properties

Property	Inconel 625 (N06625)	Inconel 718 (N07718)
Condition	Annealed (B446 Grade 1)	Solution treated and aged
Tensile strength, min	827 MPa	1275 MPa
Yield strength (0.2%), min	414 MPa	1034 MPa
Elongation, min	30 %	12 %
Maximum service temperature (typical)	about 980 °C	about 650 °C

Supply Details

Item	Detail
Density	625: 8.44 g/cm³ | 718: 8.19 g/cm³
Forms	Round bar, plate, pipe, forgings
Delivery condition	As per order and applicable ASTM / AMS specification
Certification	Mill test certificate (EN 10204 3.1) and third-party inspection available on request

Typical Applications

- Subsea and floating ball valves
- Offshore and marine equipment
- Heat exchangers and chemical processing
- Aerospace and turbine components

Ordering Information

To request a quotation, send the grade and standard, form, size or thickness, quantity, delivery condition, destination port and required certificates to info@ochnology.com or bd@ochnology.com. Typical values apply to the stated standards; actual values are certified on the mill test certificate for each lot.

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