

NICKEL ALLOY MATERIAL REFERENCE

NICKEL ALLOY 625

UNS N06625 / W.Nr. 2.4856

Verified composition, properties and piping-product specifications

NI-CR-MO-NB ALLOY

CORROSION RESISTANCE

CHEMICAL COMPOSITION

PHYSICAL CONSTANTS

PIPE AND TUBE

FITTINGS AND FORGINGS

UNS N06625 / W.Nr. 2.4856

Technical data navigation

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REFERENCE NOTE

Source dimensional values and footnotes are retained. Confirm the applicable material, grade, schedule and project specification before ordering.

MATERIAL IDENTITY

Alloy 625 at a glance

A nickel-chromium-molybdenum-niobium alloy selected for strength, fabricability and resistance to demanding corrosive environments.

UNS DESIGNATION N06625	WERKSTOFF NUMBER 2.4856
ALLOY SYSTEM Ni-Cr-Mo-Nb	STRENGTHENING Solid solution

Selection characteristics

- High strength across a broad temperature range.
- Resistance to pitting, crevice corrosion and chloride-ion stress-corrosion cracking.
- Good fabricability and joining characteristics.
- Resistance to oxidation and carburization at elevated temperature.

Mill products	Rod, bar, wire, forging stock, plate, sheet and strip
Tubular products	Seamless pipe and tube, welded pipe and welded tube
Piping components	Fittings and forgings subject to the applicable product specification

PROJECT CONFIRMATION Confirm product form, governing standard, dimensional standard, heat-treatment condition, inspection, testing and project documentation before ordering.

VERIFIED MATERIAL LIMITS

Limiting chemical composition

Weight percent. Values below follow the official Alloy 625 technical bulletin; cobalt is reported only if determined.

Element	Requirement, wt. %
Nickel (Ni)	58.0 min.
Chromium (Cr)	20.0-23.0
Iron (Fe)	5.0 max.
Molybdenum (Mo)	8.0-10.0
Niobium + Tantalum (Nb + Ta)	3.15-4.15
Carbon (C)	0.10 max.
Manganese (Mn)	0.50 max.
Silicon (Si)	0.50 max.
Phosphorus (P)	0.015 max.
Sulfur (S)	0.015 max.
Aluminum (Al)	0.40 max.
Titanium (Ti)	0.40 max.
Cobalt (Co)	1.0 max. - if determined

Important: the supplied source sheet contained a chromium range and column alignment inconsistency. This page uses the verified official limiting composition instead of reproducing that error.

REFERENCE PROPERTIES AND SPECIFICATIONS

Physical constants and product standards

Reference values are informational. Final procurement requirements follow the applicable standard revision and purchase specification.

Physical constants

Property	U.S. customary	SI
Density	0.305 lb/in3	8.44 g/cm3
Melting range	2350-2460 deg F	1290-1350 deg C
Permeability at 200 Oersted	1.0006	15.9 kA/m test field
Curie temperature	< -320 deg F	-196 deg C

Selected ASTM product specifications

Product form	Referenced specifications
Rod and bar	ASTM B446
Forgings	ASTM B564
Plate, sheet and strip	ASTM B443
Seamless pipe and tube	ASTM B444 with ASTM B829
Welded tube	ASTM B704 with ASTM B751
Welded pipe	ASTM B705 with ASTM B775
Fittings	ASTM B366

Technical reference used for verification: Special Metals, INCONEL alloy 625 technical bulletin (2013). INCONEL is a registered trademark of the Special Metals group. Confirm current specifications and project acceptance criteria before purchase.

Send your requirement

Send a drawing, product list, size, material grade, standard, schedule or wall thickness, testing and project document requirements.

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RESPONSE AND DOCUMENT COORDINATION

Initial enquiries are answered within 24 hours, including weekends, by email or WhatsApp. Drawing review, material/standard matching and project document requirements can be discussed and organized with the buyer. Third-party inspection can be buyer-nominated or coordinated on request.

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