Inconel 625 Cold Drawn Bar (UNS N06625) — Technical Data Sheet

Inconel 625 Cold Drawn Bar supplied to ASTM B446 / ASME SB446 — values are minimum requirements per the governing ASTM specification.

Chemical Composition (ASTM B446)

Element	Content
Nickel (Ni)	Balance
Chromium (Cr)	20.0–23.0%
Molybdenum (Mo)	8.0–10.0%
Niobium + Tantalum (Nb + Ta)	3.15–4.15%
Iron (Fe)	5.00% max.
Cobalt (Co)	1.00% max.
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.

Mechanical Properties (Minimum, Room Temperature)

Product Form	Condition	Tensile Strength, min.	Yield Strength (0.2%), min.	Elongation, min.
Drawn bar up to 101.6 mm (4 in.) dia.	ASTM B446 Grade 1, annealed	>=827 MPa (120 ksi)	>=414 MPa (60 ksi)	30%
Drawn bar over 101.6 to 254 mm dia.	ASTM B446 Grade 1, annealed	>=758 MPa (110 ksi)	>=345 MPa (50 ksi)	25%
Drawn bar, all sizes	ASTM B446 Grade 2, solution annealed	>=690 MPa (100 ksi)	>=276 MPa (40 ksi)	30%

Physical Properties (Typical)

Property	Value
Alloy	Inconel 625
UNS	N06625
Werkstoff	2.4856
Density	Approx. 8.44 g/cm³
Melting Range	Approx. 1290–1350°C
Alloy Type	Nickel-chromium-molybdenum
Strengthening	Solid-solution (Mo, Nb)

Heat Treatment

Condition	Treatment Behind the Drawn Bar
Grade 1	Annealed at 871 °C (1600 °F) minimum for strength-led duty
Grade 2	Solution annealed at 1093 °C (2000 °F) minimum for creep-led service

Standards and Designations

Standard	Product or Application
ASTM B446 / ASME SB446	Nickel alloy bar and rod, Grades 1 and 2
AMS 5666	Bars, forgings and rings, annealed
UNS N06625 - W.Nr. 2.4856 - NiCr22Mo9Nb	Material designations

Typical Supply Dimensions — Inconel 625 Cold Drawn Bar

Product Form	Typical Supply Range
Standard drawn bar	3–100 mm diameter, die drawn
Tight drawn bar	3–60 mm diameter to closer bands
Drawn coil	3–16 mm diameter supplied in coil

Surface Finishes

Surface Condition	Typical Use
Die drawn	Bright, scale-free skin for general machining on this drawn bar.
Drawn and straightened	Low bow for bar feeders and long shaft blanks.
Drawn, oiled	Protective oil film for export packing of drawn bar.

Values are for reference; the mill test certificate prevails for final acceptance. Dimensions, conditions, and surface finishes are confirmed at quotation.