

Inconel 600 Pipe and Tube — Technical Data Sheet

UNS N06600 seamless and welded pipe and tube to ASTM B167, B163, B517, and B516 — minimum room-temperature values per the governing standard.

Chemical Composition (ASTM B167 / B163 / B517 / B516)

Element	Content
Nickel (Ni)	72.0% min.
Chromium (Cr)	14.0–17.0%
Iron (Fe)	6.0–10.0%
Carbon (C)	0.15% max.
Manganese (Mn)	1.00% max.
Silicon (Si)	0.50% max.
Sulfur (S)	0.015% max.
Copper (Cu)	0.50% max.

Minimum Room-Temperature Mechanical Properties

Product Form	Standard	Condition	Tensile Strength	Yield Strength, 0.2% Offset	Elongation
Seamless pipe and tube	B167	Hot-worked annealed, ≤ 127 mm OD	≥ 550 MPa (80 ksi)	≥ 205 MPa (30 ksi)	≥ 35%
Seamless pipe and tube	B167	Hot-worked annealed, over 127 mm OD	≥ 515 MPa (75 ksi)	≥ 170 MPa (25 ksi)	≥ 35%
Seamless pipe and tube	B167	Cold-worked annealed, ≤ 127 mm OD	≥ 550 MPa (80 ksi)	≥ 240 MPa (35 ksi)	≥ 30%
Seamless pipe and tube	B167	Cold-worked annealed, over 127 mm OD	≥ 550 MPa (80 ksi)	≥ 205 MPa (30 ksi)	≥ 35%
Heat-exchanger tube	B163	Annealed	≥ 552 MPa (80 ksi)	≥ 241 MPa (35 ksi)	≥ 30%
Welded pipe	B517	As-welded or annealed	≥ 550 MPa (80 ksi)	≥ 240 MPa (35 ksi)	≥ 30%
Welded tube	B516	As-welded or annealed	≥ 550 MPa (80 ksi)	≥ 240 MPa (35 ksi)	≥ 30%

Physical Properties (Approx.)

Property	Value
Density	8.47 g/cm³ (0.306 lb/in³)
Melting Range	1370–1413 °C (2500–2575 °F)
Elastic Modulus	214 GPa (31.0 × 10³ ksi)
Thermal Conductivity	14.8 W/m·°C at 20 °C
Expansion Coefficient	13.3 µm/m·°C (20–100 °C)
Alloy Type	Nickel-chromium-iron, solid-solution strengthened

Standards and Designations

Standard / Designation	Product / Application
ASTM B167 / ASME SB167	Seamless pipe and tube, hot-worked and cold-worked
ASTM B163 / ASME SB163	Seamless condenser and heat-exchanger tube
ASTM B517 / ASME SB517	Welded pipe
ASTM B516 / ASME SB516	Welded tube
ASTM B829	General requirements for seamless nickel alloy pipe and tube
SAE AMS 5580	Seamless tube and custom tubing
DIN 17751	Nickel alloy pipe and tube, W.Nr. 2.4816
ISO 6207	Nickel alloy seamless tube
UNS N06600 · W.Nr. 2.4816 · NiCr15Fe	Designations

Typical Supply Dimensions

Product Form	Typical Supply Range	Length
Seamless pipe	NPS 1/8 to NPS 24, SCH 10 to SCH 160 / XXS	Single Random, Double Random or Custom
Seamless tube	OD 6–101.6 mm, wall 0.5–10 mm	Up to 12 m or custom cut lengths
Welded pipe	OD up to 1219 mm, SCH 10 to SCH 80 and heavier on request	Up to 12 m
Welded tube	OD 6–76.2 mm, wall 0.5–6 mm	Continuous or fixed length
EP / BA tube	OD 6–50.8 mm, wall 0.5–3 mm	Up to 6–12 m, clean service
Coil / U-bend tube	OD 6–25.4 mm, wall 0.5–2 mm	Continuous coil or custom U-bend

Supply Conditions and Finishes

Surface Condition	Typical Use
Annealed & Pickled	Standard delivered condition for fabrication and installation
Bright Annealed	Smooth, scale-free bore and OD for instrumentation and clean service
Beveled End	Weld-preparation beveling to the agreed standard for butt welds

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

Southerly Alloy — nickel alloy bar, rod, pipe, tube, plate and fittings · www.southerly-alloy.com · Values are for reference; the mill test certificate prevails for final acceptance.

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