

Inconel 600 Wire (UNS N06600) — Technical Data Sheet

Inconel 600 wire supplied to ASTM B166 / ASME SB166 — values are minimum requirements for the wire as delivered; properties do not apply after straightening and cutting.

Chemical Composition (ASTM B166)

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 Strength by Temper (ASTM B166 Table 3, wire as delivered)

Temper	Wire Diameter	Tensile Strength Requirement	Typical Use
Annealed	Below 0.81 mm (0.032 in.)	≥80 ksi (552 MPa), up to 115 ksi (793 MPa)	Softest wire for weaving, forming and redrawing
Annealed	0.81 mm and above	≥80 ksi (552 MPa), up to 105 ksi (724 MPa)	General-purpose soft Inconel 600 wire
Regular Temper (cold worked)	All sizes	≥120 ksi (827 MPa)	Screens, fasteners and cold-formed parts
Spring Temper	Up to 1.45 mm (0.057 in.)	≥185 ksi (1276 MPa)	Fine precision springs
Spring Temper	1.45–2.90 mm	≥175 ksi (1207 MPa)	Medium springs
Spring Temper	2.90–5.82 mm	≥170 ksi (1172 MPa)	Larger springs
Spring Temper	5.82–14.3 mm	≥140–165 ksi (965–1138 MPa)	Heavy springs, decreasing with diameter

Delivery Conditions

Delivery State	Typical Diameter	Notes
Hot rolled / black (wire rod)	6.0–20.0 mm	Drawing stock with mill scale, for redraw or machining
Hot rolled, solution annealed	5.5–19 mm	Coil form, softened for downstream forming
Hot rolled, solution annealed and pickled	5.5–19 mm	Descaled to a bright silver surface
Cold drawn, annealed (soft)	0.2–14.3 mm	Softest product wire, best ductility, 552 MPa (80 ksi) min strength
Cold drawn, regular temper	0.2–14.3 mm	827 MPa (120 ksi) minimum strength for screens and parts
Cold drawn, spring temper	Up to 14.3 mm	Highest strength, seven diameter grades per ASTM B166 (965–1276 MPa)

Physical Properties (Approx.)

Property	Value
Alloy	Inconel 600
UNS	N06600
Werkstoff	2.4816
Density	Approx. 8.47 g/cm³
Melting Range	Approx. 1370–1413°C
Alloy Type	Nickel-chromium-iron
Strengthening	Solid solution / cold work

Standards and Designations

Standard	Product / Application
ASTM B166	Nickel-chromium-iron alloy rod, bar and cold-worked wire
ASME SB166	ASME specification for pressure equipment applications
SAE AMS 5687	Nickel alloy 600 wire, annealed, 0.05 mm and above
UNS N06600	Material designation for Inconel 600
W.Nr. 2.4816	European material number
DIN 17753	Wrought nickel alloy wire, properties
BS 3075 NA14	Nickel alloy wire
QQ-W-390	A temper (annealed) and C temper (spring) wire

Surface Finishes

Surface Condition	Typical Characteristics / Applications
Bright Annealed	Clean oxide-free surface after annealing in a protective atmosphere
Pickled	Descaled surface after chemical cleaning of the annealed wire
Coated	Lubricant or soap coating on request for downstream redrawing
Straightened	Wire straightened from the coil for cutting and feeding

Typical Supply Dimensions — Wire

Product Form	Typical Supply	Length
Wire (Coil / Spool)	0.2–12 mm dia., typical enumeration 0.10–5.00 mm	Coil, spool or custom
Fine Wire	0.10–0.80 mm dia.	Spool
Wire Rod (Drawing Stock)	6.0–20.0 mm dia.	Coil
Spring Temper Wire	Up to 14.3 mm dia.	Coil or spool
Straightened and Cut Wire	1.0–14.3 mm dia.	Straight lengths
Custom Wire	To drawing	Custom

Values are for reference; the mill test certificate prevails for final acceptance. Dimensions, heat-treatment 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.

Document Control · Inconel 600 Wire Data Sheet · Rev. 1.0 · Issued 29 September 2026