

Product Description

Inconel 600 bar and rod is a nickel-chromium-iron alloy combining corrosion resistance, oxidation resistance and useful mechanical strength across a wide temperature range. UNS N06600 is commonly supplied to ASTM B166 in hot-worked, cold-worked and annealed conditions for chemical processing, heat treatment, aerospace and power generation.

Chemical Composition (per ASTM B166, typical limits)

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.

Mechanical Properties (minimum values)

Cold-worked / hot-worked, annealed	≥550 MPa	≥240 MPa	≥30%
Hot-worked, as worked*	≥585–655 MPa	≥240–310 MPa	≥20–30%
Cold-worked, as worked*	≥725–825 MPa	≥550–620 MPa	≥7–12%

* As-worked requirements vary with product form and diameter.

Applicable Standards

ASTM B166	Nickel-chromium-iron alloy rod, bar and wire
ASME SB166	ASME specification for rod, bar and wire
SAE AMS 5665	Nickel alloy 600 bar and rod, wrought products
BS 3076 NA14 / DIN 17742	Nickel alloy bar and wrought products
ISO 9723 / 9724 / 9725	Nickel and nickel alloy bar, rod and wire

Available Dimensions & Forms

Round Bar / Rod	Custom diameter	Standard or custom
Bright Bar	Custom diameter	Standard or custom
Square / Hex / Flat Bar	Custom section	Standard or custom
Forged Bar	Custom forged section	Custom
Precision-Ground Rod	Custom diameter and tolerance	Custom

Surface Finishes

Hot Finished	General industrial and machining applications
Cold Drawn	Tighter dimensional control and higher strength
Bright Finished / Peeled	Improved surface and reduced machining allowance
Centerless Ground / Polished	Precision diameter and surface requirements
Rough Turned	Large forged or hot-worked bar preparation

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