BH DÖVME METAL SANAYİ ve TİCARET LTD. ŞTİ.
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Grade	Code	UNS	Nickel Alloys
Inconel 601	Alloy 601 (2.4851)	N06601	

Nickel Alloy Properties

Inconel 601 / Alloy 601 is a nickel-based alloy recognized for its excellent oxidation resistance and dependable strength at elevated temperatures. When exposed to heat, it forms a stable protective oxide layer that supports long-term service performance. The alloy also provides good resistance to high-temperature corrosion and carburization, together with practical formability and weldability. These characteristics make it well suited for industrial furnace components, heat-treatment equipment, radiant tubes and other demanding high-temperature applications.

Chemical Composition (Inconel 601 / Alloy 601)

Ni %	Cr %	C %	Mn %	Si %	S %	Al %	Ti %	Cu %	B %	Fe %
58.00–63.00	21.00–25.00	0.10 max.	1.00 max.	0.50 max.	0.015 max.	1.00–1.70	0.10–0.60	1.00 max.	0.006 max.	Balance

Typical Mechanical Properties – Room Temperature (Annealed)

Condition	Rp0.2, MPa	Rm, MPa	Elongation [%]	Hardness [HRB]	Density [g/cm³]
Bar & Rod	205 – 415	550 – 790	40–70	60–80 HRB	8.11
Plate	205–310	550–690	45–65	60–75 HRB	8.11

Applications

Industry	Products
Heat Treatment & Industrial Furnaces	Radiant tubes, heat-treatment baskets and fixtures, furnace conveyor belts
Chemical & Petrochemical Industry	Ammonia cracker/reformer internals, catalyst support grids, process heating equipment
Energy & Power Generation	Tube supports, ash-handling system components, high-temperature furnace and combustion equipment
Automotive Industry	Exhaust-system components, glow-plug tubes, sensor housings
Environmental & Waste Incineration Systems	Combustion chambers, thermal-reactor components, hot exhaust-gas equipment
Metal Processing & Continuous Annealing Lines	Annealing tubes, high-velocity gas burners, woven-wire furnace belts
Aerospace & Gas Turbine Applications	Combustion-zone parts, igniter components, hot-gas containment components

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Additional Technical Information

Inconel 601 / Alloy 601 differs from many other heat-resistant alloys by combining **strong oxidation resistance with useful creep strength in service above approximately 550°C**. Its aluminium addition promotes the formation of a stable and adherent protective oxide scale, providing a particular advantage during repeated heating and cooling cycles. The alloy also offers **good resistance to carburizing atmospheres**, can be processed by both hot- and cold-forming methods, and demonstrates **good weldability** when appropriate nickel-alloy filler metals are used. It is therefore a reliable material not only for elevated-temperature service, but also for applications involving thermal cycling and aggressive furnace atmospheres.

Specification

Inconel 601, Alloy 601, N06601, 2.4851

Standards

Product Form	ASTM	AMS
Round Bar	ASTM B166	AMS 5715
Plate	ASTM B168	AMS 5870
Sheet	ASTM B168	AMS 5870
Seamless Pipe & Tube	ASTM B167	–
Seamless Heat Exchanger Tube	ASTM B163	–

Alternative Grades

1. Inconel 600
2. Incoloy 800H
3. Alloy 602 CA

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