



## E STEEL SDN BHD (891338-A)

NO 3, Lorong Sungai Puloh 7/KU 6,  
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Tel : 03-3292 8686 / 32928666 / 32928777  
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### INCONEL 601 ( UNS N06601 ), 2.4851

INCONEL 601, Nickel-chromium-iron Alloy 601 is a general-purpose engineering material for applications that require resistance to heat and corrosion. The outstanding characteristic of INCONEL alloy 601 is its resistance to high-temperature oxidation. The alloy also has good resistance to aqueous corrosion, has high mechanical strength, and is readily formed, machined, and welded.

The composition is a face-centered-cubic solid solution with a high degree of metallurgical stability. The alloy's nickel base, in conjunction with a substantial chromium content, provides resistance to many corrosive media and high-temperature environments. Oxidation resistance is further enhanced by the aluminum content.

#### Chemical Composition, %

Ni	Fe	S	C	Cu	Cr	Mn	Si	Al
58 - 63.0	Balance	0.015 max	0.1 max	1.0 max	21 - 25.0	1.0 max	0.5 max	1 -1.7

#### Characteristics

- The most important property of Alloy 601 is resistance to oxidation at very high temperatures up to 1250C. Even under severe conditions such as, cyclical heating and cooling. This is possible due to Alloy 601 having a tightly adherent oxide layer which is resistant against spalling.
- Resistance to carburization is good, also resistant to carbon nitriding conditions.
- Due to high chromium and some aluminum content, good resistance in oxidizing sulfur bearing atmospheres at elevated temperatures is demonstrated.

#### Applications of N06601, 2.4851

- Trays, baskets and fixtures used in various heat treatments such as carburizing and carbon nitriding.
- Refractory anchors, strand annealing and radiant tubes, high velocity gas burners, wire mesh belts etc.
- Insulating cans in ammonia reformers and catalyst support grids used in nitric acid production.
- Thermal reactors in exhaust system of petrol engines.
- Fabricated combustion chambers.
- Tube supports and ash trays in the power generation industry.



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## Mechanical Properties

Condition	Solution Annealed
Tensile Strength ( Mpa )	686
0.2% Yield Strength ( Mpa )	294
Elongation ( % )	55
Hardness ( HB )	130