APPLIED SENSOR TECHNOLOGIES
A Division of UNITED ELECTRIC CONTROLS

Inconel 601® (UNS N06601)

Description

A high nickel (58-63%) alloy with 21%-25 chromium and the addition of aluminum. The nickel-chromium base provides outstanding oxidation resistance, further improved by the addition of the aluminum.

Advantages

- ✓ Good mechanical strength
- ✓ Resistant to:
  - Embrittlement at elevated temperatures
  - Oxidation
  - Scaling
  - Carburization
  - Carbonitriding
  - sufidization at elevated temperatures

Limitations

- ✓ Do not use in vacuum furnaces

Maximum exposure temperature

2300°F (1260°C)

Thermal Conductivity

Low (11.2 W/mK at room temperature)

Chemical composition

Ni	58%-63%
Cr	21%-25%
Fe	Remainder
Al	1.0%-1.7%
Si	0.5%*
Mn	1%*
Cu	0.5%*
C	1.0%*
S	0.015%*

*Maximum

Typical applications

- ✓ Heat treating, including carburizing, nitriding and annealing furnaces
- ✓ Steel soaking pits
- ✓ Chemical processing, including heaters, preheaters and condensers
- ✓ Nitric acid production
- ✓ Incinerators
- ✓ Thermal reactors
- ✓ Exhaust sensors in aircraft and vehicles
- ✓ Blast furnaces
- ✓ Boiler tubes