APPLIED SENSOR TECHNOLOGIES
A Division of UNITED ELECTRIC CONTROLS

Inconel 600® (UNS N06600)

Description

A very high nickel content (72% minimum) in this alloy eliminates any chance of chloride stress-corrosion cracking in most applications. Chromium adds resistance to oxidation at elevated temperatures and sulfidization.

Advantages

- ✓ Immune to chloride stress-corrosion cracking in most applications
- ✓ Impact resistance, even at cryogenic temperatures
- ✓ Resistant to:
  - Oxidation
  - Reducing atmospheres
  - Alkaline solutions
  - Carburization
  - Scaling

Limitations

- ✓ Do not use in vacuum furnaces
- ✓ Do not use in sulfidizing atmospheres above 800°F
- ✓ May be attacked by mineral acids or concentrated organic acids
- ✓ Stress-corrosion cracking may occur when used with some high-temperature, high strength caustic alkalies and with mercury.
- ✓ May be susceptible to intergranular corrosion in some environments at temperatures between 1000°F and 1400°F, due to precipitation of chromium carbides.

Maximum exposure temperature

2100°F (1150°C)

Thermal Conductivity

Low (14.9 W/mK at room temperature)

Typical applications

- ✓ Chemical processing, including heaters and evaporators
- ✓ Carburizing furnaces
- ✓ Steel soaking pits
- ✓ Exhaust sensors in aircraft and vehicles
- ✓ Incinerators
- ✓ Nuclear applications

Chemical composition

Ni	72% min.*
Cr	14%-17%
Fe	6%-10%
Si	0.5%**
Mn	1%**
Cu	0.5%**
C	0.15%**
S	0.015%**

*Plus cobalt
**Maximum

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