INCONEL 713C

Inconel 713C(UNS N07713) offers outstanding resistance to thermal fatigue and good castability while offering exceptional rupture strength at 1700°F (927°C). Inconel 713C is a nickel–chromium alloy that is ideally suited for jet engine gas turbine blades.

CHEMICAL COMPOSITION

- Carbon.....0.20
- Manganese.....1.0 max
- Sulfur.....0.015 max
- Silicon.....1.0 max
- Chromium.....11.0–14.0
- Molybdenum.....3.5–5.5
- Titanium.....0.25–1.25
- Aluminum.....5.5–6.5
- Iron.....5.0 max
- Columbium + Ta.....1.0–3.0
- Nickel.....remainder

MACHINABILITY OF INCONEL 713C

- Machine with single—point cemented tungsten–cobalt grade and tungsten–tantalum–cobalt grade tools or
- High–speed tungsten–cobalt or molybdenum–tungsten–vanadium tools
- Cutting lubricants:
- Chlorinated, sulfurized fatty mineral oil
- Rich emulsion of 10 parts water and 1 part soluble oil
- Surface and cylindrical grind with wheels:
- Aluminum oxide
- Vitrified bond of medium or soft hardness and medium open structure
- Use 1 pound of sal soda with 25 gallons of water, or chemically active grinding coolant

WELDABILTIY OF INCONEL 713C

- Inconel 713C can be used in applications using very low restraint
- Use Inco–Weld A electrode
- Flash–butt weld

- Inconel 713C is also good for hydrogen–atmosphere brazing with normal high–heat brazing alloy with electroplated mating surfaces