INCONEL 625

Inconel nickel–chromium alloy 625 (UNS N06625/W.Nr. 2.4856) is used for its high strength, excellent fabricability (including joining), and outstanding corrosion resistance. Service temperatures range from cryogenic to 1800˚F (982˚C).

Strength of Inconel 625 is derived from the stiffening effect of molybdenum and niobium on its nickel–chromium matrix; thus precipitation–hardening treatments are not required. This combination of elements also is responsible for superior resistance to a wide range of corrosive environments of unusual severity as well as to high–temperature effects such as oxidation and carburization.

Chemical Composition
Limiting Chemical Composition, % by Weight.

- Nickel……58.0 min.
- Chromium……20.0–23.0
- Iron……5.0 max.
- Molybdenum……8.0–10.0
- Niobium (plus Tantalum)……3.15–4.15
- Carbon……0.10 max.
- Manganese……0.50 max.
- Silicon……0.50 max.
- Phosphorus……0.015 max.
- Sulfur……0.015 max
- Aluminum……0.40 max.
- Titanium……0.40 max.
- Cobalta ……1.0 max.

Specifications
Inconel 625 is designated as UNS N06625, Werkstoff Number 2.4856 and ISO NW6625 and is listed in NACE MR–01– 75.

Available Product Forms: Pipe, tube, sheet, strip, plate, round bar, flat bar, forging stock, hexagon, wire and extruded.

Rod, Bar, Wire and Forging Stock

ASTM B 446; ASME SB 446 (Rod & Bar), ASTM B 564; ASME SB 564 (Forgings); AMS 5666 (Bar, Forgings, & Rings); AMS 5837 (Wire), ISO 9723 (Rod & Bar), ISO 9724 (Wire), ISO 9725 (Forgings), VdTÜV 499 (Rod & Bar), BS 3076NA21 (Rod & Bar), EN 10095 (Rod, Bar, & Sections), DIN 17752 (Rod & Bar), ASME Code Case 1935 (Rod, Bar, & Forgings), DIN 17754 (forgings), DIN 17753 (Wire).

Plate, Sheet and Strip

ASTM B 443; ASTM SB 443 (Plate, Sheet & Strip), AMS 5599; 5869; MAM 5599 (Plate, Sheet & Strip), ISO 6208 (Plate, Sheet & Strip), VdTÜV 499 (Plate, Sheet & Strip), BS 3072NA21 (Plate & Sheet), EN 10095 (Plate, Sheet & Strip), DIN 17750 (Plate, Sheet & Strip), ASME Code Case 1935.

Pipe & Tube

ASTM B 444; ASTM B 829; ASME SB444; ASME SB 829 (Seamless Pipe & Tube), ASTM B704; ASTM B 751; ASME SB 704; ASME SB 751 (Welded Tube), ASTM B705; ASTM B 775; ASME SB 705; ASME SB 775 (Welded Pipe), ISO 6207 (Tube), AMS 5581 (Seamless & Welded Tube), VdTÜV 499 (Tube), BS 3074NA21 (Seamless Pipe & Tube), DIN 17751 (Tube), ASME Code Case 1935.

Other Product Forms

ASTM B 366; ASME SB 366 (Fittings), ISO 4955A (Heat Resisting Steels & Alloys), DIN 17744 (Chemical composition of all product forms).