

ASTM B564 Inconel 600 (UNS N06600) Flanges Specification

UNS N06600, also known as Inconel 600 or alloy 600, which is a **nickel-chromium alloy** that provides excellent resistance to oxidation at high temperatures.

Standard Overview

- **Specification Title:** ASTM B564 - Standard Specification for Nickel Alloy Forgings
- **Applicable Grade:** Inconel 600 / UNS N06600
- **Product Types:** Weld neck flanges, blind flanges, slip-on flanges, forged Disc, Ring, etc.

Chemical Composition (% by Weight)

Element	Minimum (%)	Maximum (%)
Nickel (Ni)	72.0	Balance
Chromium (Cr)	14.0	17.0
Iron (Fe)	6.0	10.0
Carbon (C)	—	0.15
Manganese (Mn)	—	1.0
Silicon (Si)	—	0.5
Sulfur (S)	—	0.015
Copper (Cu)	—	0.5

Mechanical Properties (Typical at Room Temperature)

Property	Value
Tensile Strength	\geq 550 MPa (80 ksi)
Yield Strength (0.2%)	\geq 240 MPa (35 ksi)
Elongation (in 50 mm)	\geq 30%
Hardness (Brinell)	\leq 200 HBW
Density	8.47 g/cm ³
Melting Point	1354 - 1413 ° C

Heat Treatment Requirements

- **ASTM B564** requires that forgings be **solution annealed** and **water-quenched** or **rapidly cooled**.
- Normal solution annealing temperature range: **1010 - 1150° C** (**1850 - 2100° F**)

Testing & Inspection Requirements

- **Chemical Analysis**
- **Tension Test**
- **Hardness Test** (Brinell or Rockwell)
- **Ultrasonic Testing (Optional/Client Requirement)**
- **Visual and Dimensional Inspection**
- **Positive Material Identification (PMI)**
- **Nondestructive Testing (NDT)** when specified. PT

Available Products Under ASTM B564

- Forged flanges (Weld Neck, Blind, Slip-On, Socket Weld)
- Forged rings and discs
- Forged bar stock
- Custom forged shapes as per drawing

Marking Requirements of As per ASTM B564 N06600 flanges

Each piece must be marked with:

- **ASTM B564 / UNS N06600**
- **Heat number** or **batch number**
- **Manufacturer's name** or **trademark**
- **Size, schedule, pressure class** (if applicable)
- **Country of origin**

Documentation Supplied

- **EN 10204 3.1 / 3.2 Material Test Certificates (MTC)**
- **Heat treatment charts** (on request)
- **Third-party inspection reports** (Lloyd's, TUV, SGS, etc.)
- **Compliance to NACE MR0175 / ISO 15156** upon request