

NIMONIC 80A FORGINGS

Technical Datasheet – Nickel-Chromium Superalloy Forged Parts

UNS N07080 | W.Nr. 2.4952 / 2.4631 | ASTM B637 | EAF + VOD-ESR Melt

Nimonic 80A is a **wrought, age-hardenable nickel-chromium alloy**, strengthened by additions of titanium, aluminum and carbon. It has good corrosion and oxidation resistance, and high tensile and creep-rupture properties at temperatures up to **815 °C (1500 °F)**.

We produce Nimonic 80A forging parts to the standard of **ASTM B637** using **EAF + VOD-ESR** melting methods. Standard heat treatment: **8 hours / 1080 °C (1976 °F) / Air Cool + 16 hours / 700 °C (1292 °F) / Air Cool**.

1. CHEMICAL COMPOSITION (Weight %)

Element	Ni	Cr	Ti	Al	C	Si	Cu	Fe	Mn	Co	B	Zr	S
Nimonic 80A	Bal.	18.0–21.0	1.8–2.7	1.0–1.8	0.10 max	1.0 max	0.2 max	3.0 max	1.0 max	2.0 max	0.008 max	0.15 max	0.015 max

2. MECHANICAL PROPERTIES

Property	Min (Imperial)	Min (SI)
Tensile Strength	145 KSI	1000 MPa
Yield Strength	90 KSI	621 MPa
Elongation	20 %	—

3. AVAILABLE NIMONIC 80A FORGED FORMS

Product Form	Description
Rings & Discs	Forging Rings, Seamless Rolled Rings, Forged Discs / Disks, Forged Circles
Bars & Shafts	Forging Round Bars, Forging Shafts, Forging Spindles, Forging Eccentric Shafts
Flanges	Forging Flanges (all face types and pressure ratings)
Tubular Products	Forged Tubes, Forging Pipes, Forging Sleeves, Forged Hollow Bars, Tube Sheets
Machined Parts	Forged Bushings, Forged Nozzles, Forging Gears, Forging Rolls, Forged Wheels, Forged Manifolds, Forged Crankshafts, Forging Gear Blanks
Valve Components	Forged Valve Stems, Valve Seat Rings, Valve Blocks, Forged Bodies (Ball / Gate / Globe / Check / Plug / Strainer valves)

4. APPLICATION AREAS

Industry / Sector	Components & Uses
Gas Turbine & Power	Turbine blades, rings, discs and bolts; forging shafts used in gas turbine components; power generators and gas compressors; gear boxes and power transmission systems.
Pressure Vessels & Heat Exchangers	Forged shafts, pipes, tubes, tube sheets and flanges for pressure vessels, air receivers, and Shell & Tube Heat Exchangers.

Columns, Towers & Process Equipment	Forging shafts, flanges, forged rings and pipes for Columns & Towers, Tanks, Silos, Process Modules and Preheaters; processing units, mechanical equipment, crystalliser equipment, Wellhead and Christmas tree.
Offshore & Onshore Industry	Forged bushings, sleeves, discs and disks for subsea and deepwater offshore oil production systems, industrial air compressors, power generators and nitrogen generators.
Nuclear & Automotive	Nuclear boiler tube supports; die casting inserts and cores; automobile exhaust valves (open die forging parts, nozzles, forged crankshafts).
Valves	Forged valve stems, valve parts, valve seat rings, valve blocks and bodies for ball valves, check valves, strainers, globe valves, gate valves and plug valves.
Shipping, Heavy Machinery & Others	Forged wheels, manifolds and rolls for shipbuilding, heavy machinery, paper and pulp industries, and pharmaceutical & biochemistry.

5. STANDARD, TESTING & CERTIFICATION

Category	Detail
Material Standard	ASTM B637 – Rod, Bar, Wire and Forging Stock
Equivalent Designations	UNS N07080 W.Nr. 2.4952 W.Nr. 2.4631 Nimonic 80A Alloy 80A 2.4631 Forged Pieces 2.4952 Forged Parts
Melting Method	EAF + VOD-ESR (Electric Arc Furnace + Vacuum Oxygen Decarburisation + Electroslag Remelting)
Ultrasonic Testing	EN 10228-3 SEP 1921 ASTM A388
Mill Test Certificate	EN 10204-3.1 (standard) or EN 10204-3.2 (third-party inspection)

6. PRODUCT DESCRIPTION – NIMONIC 80A FORGED PARTS

We manufacture and supply **Nimonic 80A forging parts** including **Nimonic 80A forged rings**, **Nimonic 80A seamless rolled rings**, **Nimonic 80A forging flanges**, **Nimonic 80A forging round bars**, **Nimonic 80A forged discs**, **Nimonic 80A forging bushings**, **Nimonic 80A forged tubes**, **Nimonic 80A forging sleeves**, **Nimonic 80A forging tube sheets**, **Nimonic 80A forging shafts**, and **Nimonic 80A forging pipes** as per customer drawings and specifications. All **UNS N07080 forged products**, **2.4631 forged pieces** and **2.4952 forged parts** are delivered with full material traceability and third-party inspection certificates. Please send us the size or drawing of the Nimonic 80A forged material you require — we will be pleased to provide a competitive quotation.