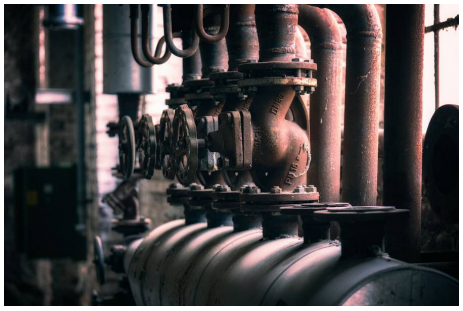
NICKEL ALLOYS

Advanced Materials. Engineered for Performance.

Alloy 740H

Nickel Alloys | UNS: N07740 | Trade name: Inconel 740H | ASME: Code Case 2702



Precipitation-hardened nickel alloy developed for advanced ultra-supercritical boilers. Gamma-prime strengthening plus about 25% chromium holds creep rupture strength and coal-ash corrosion resistance at 750 C and above, which is beyond what 617 can carry in thick section steam headers.

Stock status: Project supply - Typical lead time: 10 - 16 weeks on enquiry

Key features

- Gamma-prime strengthened for 750 C steam service
- ASME Code Case 2702 qualified for AUSC boilers
- Coal-ash and steam-side oxidation resistance at temperature
- Supplied solution treated and aged, with full heat traceability

Available forms & sizes

Form	Size range
Seamless Pipes & Tubes	1/2" - 16" NB, SCH 10S - SCH 160, seamless
Seamless Pipes & Tubes	6 - 88.9 mm OD tube, BA / bright annealed finish
Plates	3 - 50 mm thk, hot rolled and solution annealed
Round Bars	10 - 300 mm dia

Chemical composition (%)

Element	Min	Max
Ni	Balance	-
Cr	23.5	25.5
Co	15.0	22.0
Nb	0.50	2.50
Ti + Al	1.80	3.00

Mechanical properties

Property	Value	Unit
Yield Strength (0.2%)	620 min (aged)	MPa

Property	Value	Unit
Tensile Strength	1000 min (aged)	MPa
Elongation	20 min	%
Condition	Solution treated and aged	-

Physical properties

Property	Value	Unit
Density	8.05	g/cm3
Max Service Temperature	800	C

Standards

ASME Code Case 2702, ASTM B443 / B444 style supply (plate, pipe), AUSC qualification data, EN 10204 3.1

Equivalent grades

N07740, Inconel 740H, Alloy 740H

Industries served

Power Generation, Petrochemical, Nuclear

Typical applications

- Advanced ultra-supercritical superheater and reheater tubing
- Thick section steam headers above 700 C
- High temperature steam piping
- Concentrated solar power receiver components

Live datasheet