

NI-BASE ALLOYS

Available Product Variants

- Semi-Finished Products / Billet
- Open Die Forgings

Product Description

Components for aircraft industry and gas turbines, e.g. shafts, blades and discs.

Properties

Precipitation hardenable, creep resistant. Good mechanical properties up to 760°C. Scaling resistance in air up to 850°C.

Applications

- > Comp. for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Extrusion
- > Fasteners, Bolts, Nuts
- > Other Aerospace Comps.
- > Other Oil and Gas + CPI comps.
- > Other Power Generation Components
- > Steam Valves
- > Tubular Products, Flanges, Fittings
- > Turbine and Engine Parts (Aerosp)

Technical data

Material designation		Standards	
2.4662	SEL	5660	AMS
N09901	UNS	5661	
NiCr13Mo6Ti3	EN	HR 53	BS
Alloy 901	Market grade		

Chemical composition (wt. %)

C	Cr	Mo	Ni	Ti	Fe
0.04	12.5	5.8	42.5	3	Rest

Heat treatment

Solution annealing		
Temperature (°C °F)	1075 1967 to 1105 2021	2h, oil or water

Physical Properties at 20°C / 68°F

Density	8.15 0.29	[kg/dm ³ lb/in ³]
Thermal conductivity	12 6.93	[W/(m.K) BTU (IT) ft/hr/ft ² /F]
Specific heat	450 107.48	[J/(kg.K) BTU (IT) lb/F]
Spec. electrical resistance	1.14 5.39	[Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft]
Modulus of elasticity	205 29.73	[10 ³ N/mm ² 10 ³ ksi]

Thermal Expansions

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932	600 1112	700 1292	800 1472	900 1652
Thermal expansion (10 ⁻⁶ m/ (m.K) 10 ⁻⁶ inch/(inch.F))	14.5 8.056	14.6 8.111	14.7 8.167	14.9 8.278	15.2 8.444	15.6 8.667	16.1 8.944	16.7 9.278	17.6 9.778

For more information see <https://www.voestalpine.com/boehler-edelstahl/de/>

The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.