

NI-BASE ALLOYS

Available Product Shapes

Long Products

Product Description

Severely stressed components, e.g. gas turbine blades, discs, shafts, combustion chambers for diesel engines, valves. Hot work tools, forging hammers, swaging dies, pressing tools, shear blades, springs, bolts and nuts.

Properties

Nickel-base-alloy, creep resistant up to 850°C, and excellent oxidation resistance.

Applications

- > Blades & Shafts for Turbines and Compressors
 - > Other Power Generation Components
- > Comp. for Industrial Gas Compressors
 - > Steam Valves
- > Fasteners, Bolts, Nuts

Material designation		Standards	
2.4952	SEL	grade 80A	ASTM
N07080	UNS	AFNOR NC20TA	Others
NiCr20TiAl	EN		
NCF80A	JIS		
Alloy 080A HT	Market grade		

Chemical composition

C	Cr	Ni	Ti	Al	Fe
0.06	19.50	Rest	2.50	1.70	≤ 1,5

Heat treatment

Solution annealing

Temperature (°C / °F)	1050 / 1922 - 1080 / 1976	air or water
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Physical Properties at 20°C / 68°F

Density	8.2 / 0.3	[kg/dm ³ / lb/in ³]
Thermal conductivity	13 / 7.51	[W/(m.K) / BTU (IT) ft/hr/ft ² /F]
Specific heat	460 / 109.87	[J/(kg.K) / BTU (IT) lb/F]
Spec. electrical resistance	1.24 / 0.001	[Ohm.mm ² /m / Ohm.inch ² /ft]
Modulus of elasticity	216 / 31.33	[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
Thermal expansion (10^{-6} m/(m.K) / 10^{-6} inch/ (inch.F))	12.9 / 7.167	13.4 / 7.444	13.8 / 7.667	14.3 / 7.944	14.7 / 8.167	15.2 / 8.444

For more information see www.voestalpine.com/boehler-edelstahl

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ONE STEP AHEAD.