

# Alloy 80A (NiCr20TiAl)

## Material Designation

2.4952 DIN  
N07080 UNS  
Alloy 80A

## Standards

ASTM B637  
DIN EN 10269  
DIN EN 10302  
DIN 17742

## Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Ni	Cu	Ti	Al	B	Co	Fe
min.	0,04	-	-	-	-	18,0	65,0	-	1,8	1,0	-	-	-
max.	0,10	1,00	1,00	0,020	0,015	21,0	-	0,2	2,7	1,8	0,008	1,00	1,50

Customer specific restrictions upon request

## Properties

Alloy 80A is a high-temperature resistant, precipitation hardenable Ni-Cr alloy.

High inner cleanliness is achieved using vacuum induction melting (VIM) and PESR-treatment.

The material shows excellent creep strength and resistance against thermal changes.

Alloy 80A is scaling resistant up to 1000 °C and resistant against corrosion in oxidizing media.

## Delivery Condition

- ✖ solution annealed (+AT)
- ✖ solution annealed and precipitation hardened (+AT +P)

## Application Area

Material for high mechanical loads at elevated temperatures up to 800 °C, e.g. steam generators, gas turbines and power plants.

## Typical Applications

- ✖ Fasteners and bolting elements for high temperature applications
- ✖ Components for gas turbines
- ✖ Turbine blades
- ✖ Turbochargers
- ✖ Exhaust valves

## Mechanical Properties Solution annealed and precipitation hardened

Yield strength [N/mm <sup>2</sup> ]	Tensile strength [N/mm <sup>2</sup> ]	Elongation [%]	Reduction of area [%]	Impact toughness [J] Charpy-V
≥ 620	1000 - 1300	≥ 20	≥ 12	≥ 20

## Stress rupture test

Upon request

## Heat Treatment Guideline values acc. to DIN EN 10269 and ASTM

	Temperature [°C] / Duration	Cooling medium
Solution annealing (+AT)	1050 - 1080 / 8h	Air
1st Precipitation hardening (+P)	840 - 860 / 24h	Air
2nd Precipitation hardening (+P)	690 - 710 / 16h	Air

## Quality

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNV ...
- Customer specific approval certificates

## Innovation

- Fully automated ultrasonic testing up to dia. 1000 mm
- CO<sub>2</sub>-reduction by innovative heat treatment solutions

## Flexibility

- Product range from fine wire to forging
- Directly from stock close at hand

## Individuality

- Dimensions
- Tolerances
- Surface qualities
- Delivery conditions

## Your personal contact:

## BGH Edelstahlwerke GmbH

Am Stahlwerk 1  
01705 Freital  
+49 351 646-0  
www.bgh.de

