

# HEAT-RESISTING STEELS

## Application Segments

Oil & Gas/CPI

## Available Product Variants

Long Products

## Product Description

BÖHLER H500RB (Alloy 800, 800HT) is an austenitic, high-temperature iron-nickel-chromium alloy with good creep rupture strength at temperatures above 600°C. This material also has good resistance in oxidising, carburising and sticking atmospheres with good workability. With a nickel content of more than 30%, this material has little tendency to precipitate sigma phase. In addition to the good mechanical long-term properties, BÖHLER H500RB is resistant to oxidation and carburisation up to approx. 1000°C. In certain temperature ranges, it shows resistance to sulphurous media.

The original Alloy 800 is increasingly being replaced in the market by the variants 800H and HT. These can be solution annealed and therefore have improved creep rupture properties at high temperatures.

The material BÖHLER H500RB fulfils the properties of Alloy 800 as well as Alloy 800H and 800HT by controlled contents of carbon, aluminium, titanium, silicon and manganese as well as controlled sum content of Al + Ti. In the case of Alloy 800H and HT, special solution annealing significantly increases the creep rupture strength at temperatures above 600°C.

## Process Melting

Airmelted

## Applications

- > Chemical industry - general
  - > Burner Nozzles
  - > Tubular Products, Flanges, Fittings
- > Heat Exchanger
  - > Fasteners, Bolts, Nuts
- > High temperature components
  - > Other Oil and Gas + CPI components

## Technical data

Material designation		Standards	
Alloy 800	Market grade	10302	EN ISO
Alloy 800H		B408	ASTM
Alloy 800HT			
1.4876	SEL		
1.4959			
X10NiCrAlTi32-21	EN		
X8NiCrAlTi32-21			
N08800	UNS		
N08810			
N08811			

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Ni	Cu	Ti	Al	Fe
0.06 to 0.10	max. 1.0	max. 1.5	max. 0.045	max. 0.015	19.0 to 23.0	30.0 to 35.0	max. 0.75	0.25 to 0.60	0.25 to 0.60	min. 39.5

Refers to ASTM B408 - Alloy N08800 N08810 N08811 | Al + Ti 0.85 - 1.20

Delivery condition

Solution Annealed + Quenched	
Tensile Strength (MPa)	min. 515
Yield Strength (MPa)	min. 205

Round Bars and Wire Rod (if any)

Diameter mm	
<b>ROLLED</b>	
12.50	130.00
<b>FORGED</b>	
130.10	203.20

More information regarding MOQ, lengths and tolerances upon request. Flat bars on request.

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. 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.

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