

# AUSTENITIC STEELS

## Application Segments

Aerospace

## Available Product Variants

Long Products\*

Plates

\* ) Presented data refer exclusively to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

## Product Description

BÖHLER A750 is an austenitic, corrosion and heat-resistant chromium nickel steel, niobium stabilized and solution treated. It has been used typically for parts requiring good corrosion resistance and which will be subjected to elevated temperatures during fabrication or in service and for parts requiring oxidation resistance up to 1500 °F (816°C), but usage is not limited to such applications. Compared to common 13% chromium steel, it offers higher corrosion resistance at lower strength and good weldability. No post-weld heat treatment required. The steel is resistant to atmospheric corrosion and the action of steam, water and acid as well as alkaline solutions. For optimum resistance, surfaces should be pickled or polished. Cold forming properties are very good. The steel is capable of taking a mirror finish.

## Process Melting

Airmelted

## Applications

> Other Aerospace Comps.

## Technical data

Material designation		Standards
1.4546	SEL	5646 AMS
X5CrNiNb18-10	EN	S130
Z6CnNb1810		970 Pt.3
S34700	UNS	

## Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	Nb
max. 0.08	max. 1	max. 2	max. 0.04	max. 0.03	17 to 19	max. 0.75	9 to 12	max. 0.75	max. 1	10xC to 1.1

Related to AMS5646

**Delivery condition**

<b>Solution annealed</b>	
Tensile Strength (MPa   ksi)	min. 517   75   bars above 12.7 mm diameter
Yield Strength (MPa   ksi)	min. 207   30   bars above 12.7 mm diameter
<b>Solution annealed</b>	
Tensile Strength (MPa   ksi)	586 to 862   85 to 126   wire
<b>Solution annealed</b>	
Hardness (HB)	140 to 255   bars up to 50.8 mm diameter, inclusive
<b>Solution annealed</b>	
Hardness (HB)	max. 255   bars above 50.8 mm diameter

**Round Bars and Wire Rod (if any)**

Diameter		MOQ ex mill		Length		Tolerance
mm	inch	kg	lbs	m	ft	
<b>ROLLED</b>						
5.01	- 12.49	0.197	- 0.492	800	1,764	3.00 - 4.00 9.84 - 13.12 IT h/k 11
12.50	- 55.00	0.492	- 2.165	950	2,094	3.00 - 4.00 9.84 - 13.12 IT h/k 11
55.01	- 69.00	2.166	- 2.717	1,200	2,646	3.00 - 4.00 9.84 - 13.12 IT h/k 11
69.01	- 72.00	2.717	- 2.835	1,000	2,205	3.00 - 4.00 9.84 - 13.12 IT h/k 11
72.01	- 82.00	2.835	- 3.228	1,150	2,535	3.00 - 4.00 9.84 - 13.12 IT h/k 11
82.01	- 120.00	3.229	- 4.724	1,300	2,866	3.00 - 4.00 9.84 - 13.12 IT h/k 11
120.01	- 140.00	4.725	- 5.512	1,300	2,866	3.00 - 5.00 9.84 - 16.40 IT h/k 14
<b>FORGED</b>						
140.01	- 220.00	5.512	- 8.661	1,400	3,086	2.00 - 5.00 6.56 - 16.40 IT h/k 14

**Long Products:** For additional specifications, technical requirements, and other dimensions, please contact our regional voestalpine BÖHLER sales companies.

**Sheet & Plates:** Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact voestalpine BÖHLER Bleche GmbH & Co KG.

*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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 ONE STEP AHEAD.