

CORROSIONS-RESISTANT STEELS - AUSTENITIC STEELS AND NON MAGNETIC 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 Components

> Aerospace

Technical data

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

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	Nb
max. 0.08	max. 1.00	max. 2.00	max. 0.040	max. 0.030	17.00 to 19.00	max. 0.75	9.00 to 12.00	max. 0.75	max. 1.00	10xC to 1.10

Related to AMS5646

Delivery condition

Solution annealed

Tensile Strength (MPa)	min. 517 bars above 12.7 mm diameter
Yield Strength (MPa)	min. 207 bars above 12.7 mm diameter

Solution annealed

Tensile Strength (MPa)	586 to 862 wire
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Solution annealed

Hardness (HB)	140 to 255 bars up to 50.8 mm diameter, inclusive
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Solution annealed

Hardness (HB)	max. 255 bars above 50.8 mm diameter
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Round Bars and Wire Rod (if any)

Diameter mm			MOQ ex mill kg	Length m			Tolerance
ROLLED							
5.01	-	12.49	800	3.00	-	4.00	IT h/k 11
12.50	-	55.00	950	3.00	-	4.00	IT h/k 11
55.01	-	69.00	1,200	3.00	-	4.00	IT h/k 11
69.01	-	72.00	1,000	3.00	-	4.00	IT h/k 11
72.01	-	82.00	1,150	3.00	-	4.00	IT h/k 11
82.01	-	120.00	1,300	3.00	-	4.00	IT h/k 11
120.01	-	140.00	1,300	3.00	-	5.00	IT h/k 14
FORGED							
140.01	-	220.00	1,400	2.00	-	5.00	IT h/k 14

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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