CREEP RESISTANT STEELS

Application Segments

Aerospace

Available Product Variants

Long Products* | Semi-Finished Products / Billet | Plates

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

Product Description

BÖHLER T670 is a corrosion-resistant steel for aerospace applications in the form of bars, wire, and forgings with diameters/thicknesses up to 305 mm in the solution-annealed condition, as well as pre-forging material of any size.

It is a martensitic, precipitation-hardenable chromium-nickel-copper-molybdenum steel with high strength and toughness.
BÖHLER T670 is primarily suitable for parts requiring corrosion resistance close to that of Cr-Ni 18-8 steels and exceeding the strength of martensitic 12% Cr steels. This steel can be processed in the solution-annealed condition and, through precipitation treatment, achieves tensile strengths of up to 1080 MPa with good ductility and strength in the transverse directions, even in large cross-sections.
Certain processing methods and operating conditions can cause stress corrosion cracking in these products.

Process Melting

Airmelted

Applications

- Other Aerospace Components
- Structural parts (Aerospace)

Technical data

Material designation	
S143	Market grade

Standards	
S143	
S144	BS
S145	

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Nb
max. 0.07	max. 0.60	max. 1.00	max. 0.035	max. 0.025	13.2 to 14.7	1.20 to 2.00	5.0 to 5.8	1.20 to 2.00	0.10 to 0.40

Related to BS S143

Delivery condition

Solution annealed

Hardness (HB)	max. 331 | bars, billets and forging stock for subsequent working(S143A)

Solution annealed + precipitation hardened

Hardness (HB)	277 to 341 | Black and bright bars for machining(S143B, S143D) and subsequently cold drawn, cold rolled, machined or ground, forgings(S143C)
Tensile Strength (MPa)	930 to 1,080
Yield Strength (MPa)	min. 780

Round Bars and Wire Rod (if any)

Diameter mm			MOQ ex mill kg	Length m			Tolerance
ROLLED							
5.01	-	12.49	850	3.00	-	4.00	IT h/k 11
12.50	-	55.00	900	3.00	-	4.00	IT h/k 11
55.01	-	69.00	1,180	3.00	-	4.00	IT h/k 11
69.01	-	72.00	900	3.00	-	4.00	IT h/k 11
72.01	-	82.00	900	3.00	-	4.00	IT h/k 11
82.01	-	120.00	900	3.00	-	4.00	IT h/k 11
120.01	-	130.00	900	3.00	-	5.00	IT h/k 14
FORGED							
130.01	-	203.20	1,320	2.00	-	5.00	IT h/k 14

Flat Bars

Width mm			Thickness mm			MOQ ex mill kg	Length m			Tolerance
ROLLED										
15.00	-	121.00	8.00	-	86.00	1,100	3.00	-	4.00	LN 1017
120.00	-	150.00	25.00	-	85.00	1,100	3.00	-	4.00	LN 1017
150.00	-	275.00	20.00	-	100.00	1,100	3.00	-	4.00	LN 1017
275.00	-	330.00	25.00	-	80.00	1,100	3.00	-	4.00	LN 1017

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.

voestalpine BÖHLER Edelstahl GmbH & Co KG
Mariazeller Straße 25
8605 Kapfenberg, AT
T. +43/50304/20-0
E. info@bohler-edelstahl.at
https://www.voestalpine.com/bohler-edelstahl/de/

voestalpine
ONE STEP AHEAD.