FERRITIC AND MARTENSITIC STEELS, INCL. PRECIPITAION HARDENING 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 N701 is a high quality, vacuum remelted, corrosion resistant steel for aerospace applications in the form of bars for machining up to 200 mm in diameter.

It is a martensitic, precipitation hardenable chromium-nickel-copper steel with high strength and toughness.

These products are typically used for parts that require corrosion resistance, high strength up to 600 °F, and exhibit good toughness & strength in the transverse direction of large dimensions. However, use is not limited to such applications.

Certain processing methods and operating conditions can cause these products to become susceptible to Stress corrosion cracking.

Process Melting

Airmelted + VAR

Applications

- Aerospace
- Other Aerospace Comps.
- Structural parts (Aerosp)

Technical data

Material designation	
15-5 PH	Market grade
1.4545	SEL
X5CrNiCu15-5 FE-PM 1802	EN
S15500	UNS

Standards	
2817	EN

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Nb
max. 0.07	max. 1.00	max. 1.00	max. 0.030	max. 0.015	14.0 to 15.5	max. 0.50	3.5 to 5.5	2.5 to 4.5	5xC to 0.45

Related to EN 2817

Delivery condition

Solution annealed	
Hardness (HB)	max. 363 | Bars for machining

Solution annealed + precipitation hardened	
Hardness (HB)	331 to 401 | Bars for machining
Tensile Strength (MPa | ksi)	min. 1,070 | 156
Yield Strength (MPa | ksi)	min. 1,000 | 146

Round Bars and Wire Rod (if any)

Diameter						MOQ ex mill		Length				Tolerance
mm			inch			kg	lbs	m			ft	
ROLLED												
5.01	-	12.49	0.197	-	0.492	1,100	2,425	3.00	-	4.00	9.84 - 13.12	IT h/k 11
12.50	-	55.00	0.492	-	2.165	1,200	2,646	3.00	-	4.00	9.84 - 13.12	IT h/k 11
55.01	-	120.00	2.166	-	4.724	2,300	5,071	3.00	-	4.00	9.84 - 13.12	IT h/k 11
120.01	-	140.00	4.725	-	5.512	2,300	5,071	3.00	-	5.00	9.84 - 16.40	IT h/k 14
FORGED												
140.01	-	203.20	5.512	-	8.000	2,350	5,181	2.00	-	5.00	6.56 - 16.40	IT h/k 14
203.21	-	304.80	8.000	-	12.000	3,500	7,716	2.00	-	5.00	6.56 - 16.40	IT h/k 14

Flat Bars

Width						Thickness						MOQ ex mill		Length				Tolerance
mm			inch			mm			inch			kg	lbs	m			ft	
ROLLED																		
15.00	-	121.00	0.591	-	4.764	0.31	-	3.39	0.012	-	0.133	1,300	2,866	3.00	-	4.00	9.84 - 13.12	LN 1017
120.00	-	150.00	4.724	-	5.906	0.98	-	3.35	0.039	-	0.132	2,550	5,622	3.00	-	4.00	9.84 - 13.12	LN 1017
150.00	-	275.00	5.906	-	10.827	0.79	-	3.94	0.031	-	0.155	2,550	5,622	3.00	-	4.00	9.84 - 13.12	LN 1017
275.00	-	330.00	10.827	-	12.992	0.98	-	3.15	0.039	-	0.124	2,550	5,622	3.00	-	4.00	9.84 - 13.12	LN 1017

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.

Semi-Finished Products: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact the business unit Semi Finished Products of voestalpine BÖHLER Edelstahl GmbH & Co KG.

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ONE STEP AHEAD.

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