

FERRITIC AND MARTENSITIC STEELS, INCL. PRECIPITATION HARDENING STEELS

Application Segments

Aerospace

Automotive

Available Product Variants

Long Products*

Semi-Finished Products / Billet

Plates

Open Die Forgings

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

Product Description

BÖHLER N700 is a premium aircraft-quality corrosion-resistant steel in the form of bars, wire, forgings up to 8.0 inches (203 mm) in diameter or least distance between parallel sides in the solution heat treated condition and stock of any size for forging.

It is a martensitic precipitation hardenable chromium-nickel-copper steel possessing high strength and toughness. Further strength increments can be obtained by cold forming, followed by a precipitation hardening treatment.

These products have been used typically for parts requiring corrosion resistance and high strength up to 600 °F (316 °C), but usage is not limited to such applications.

Certain processing procedures and service conditions may cause these products to become subject to stress-corrosion cracking.

For applications, such as bolting, where stress-corrosion is a possibility, the product should be precipitation heat treated for not less than 4 hours at the highest temperature compatible with the strength requirements but in no case lower than 1025 °F (552 °C).

Process Melting

Airmelted + VAR

Applications

- > Aerospace
- > Automotive
- > Other Aerospace Comps.
- > Automotive Racing
- > Structural parts (Aerosp)

Technical data

Material designation		Standards	
17-4 PH	Market grade	A564	ASTM
1.4548	SEL	5643	AMS
X5CrNiCu17-4	EN	5622	
EZ6CNU17.04			
S17400	UNS		
630	AISI		

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Nb
max. 0.07	max. 1.00	max. 1.00	max. 0.025	max. 0.015	15.00 to 17.50	max. 0.50	3.00 to 5.00	3.00 to 5.00	5xC to 0.45

Related to AMS 5622 type 1

Delivery condition

Solution annealed

Hardness (HB)	max. 363 bars, hot or cold finished, forgings
Tensile Strength (MPa ksi)	max. 1,207 176 for wire products

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	2,297		5,064		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

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	8.00	-	86.00	0.315	-	3.386	1,300		2,866	3.00	-	4.00	9.84	-	13.12	LN 1017
120.00	-	150.00	4.724	-	5.906	25.00	-	85.00	0.984	-	3.346	2,550		5,622	3.00	-	4.00	9.84	-	13.12	LN 1017
150.00	-	275.00	5.906	-	10.827	20.00	-	100.00	0.787	-	3.937	2,550		5,622	3.00	-	4.00	9.84	-	13.12	LN 1017
275.00	-	330.00	10.827	-	12.992	25.00	-	80.00	0.984	-	3.150	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.

Open Die Forgings: 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 Open Die Forgings of voestalpine BÖHLER Edelstahl GmbH & Co KG.

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.

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/>

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