

# **CORROSION RESISTANT STEELS -**MARTENSITIC PRECIPITATION HARDENING (PH) STEELS

#### **Application Segments**

Oil & Gas/CPI

#### **Available Product Variants**

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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 N701 covers a corrosion-resistant steel in the form of bars, wire, forgings in the solution heat treated condition.

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. Improved corrosion resistance compared to the 13% or 17% chromium steels. Remelting processes are used to improve steel purity and homogeneity.

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

Typical applications are reactor construction, highly stressed pump parts, springs, ship shafts, plastic injection, compression molds and medical instruments.

#### **Process Melting**

Airmelted + VAR

#### **Applications**

- > Civil and mechanical engineering
- > Injection molds and screws for the processing of glass fiber reinforced plastics
- > Pumps and High Pressure Components
- > Injection Molding

- > Medical
- > Shafts
- > Fasteners, Bolts, Nuts > General Components for Mechanical

Engineering

- > Mechanical Engineering
- > Other Components
- > Food processing industry

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### CORROSION RESISTANT STEELS -MARTENSITIC PRECIPITATION HARDENING (PH ) STEELS

#### **Technical data**

Material designation		Standards	
15-5 PH	Market grade	A564	ASTM
1.4545	SEL		
X5CrNiCu15-5	EN		
S15500	UNS		

#### Chemical composition (wt. %)

С	Si	Mn	Р	S	Cr	Ni	Cu	Nb
max. 0.07	max. 1.00	max. 1.00	max. 0.040	max. 0.030	14.00 to 15.50	3.50 to 5.50	2.50 to 4.50	0.15 to 0.45

Related to ASTM A564

#### **Delivery condition**

Solution Annealed + Quenched			
Hardness (HB)	max. 363		
Solution Annealed + Quenc	hed		

## Hardness (HRC)

nuluiless (IIKC)

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

Diameter					
mm					
ROLLED					
12.50	-	130.00			
FORGED					
130.10	-	203.20			

More information regarding MOQ, length and tolerance upon request. Flat Bars upon request.

max. 38

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 BOHLER 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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