CORROSION RESISTANT STEELS - MARTENSITIC PRECIPITATION HARDENING (PH) STEELS

Application Segments

Oil & Gas/CPI

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 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

Technical data

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

Standards	
A564	ASTM

Chemical composition (wt. %)

C	Si	Mn	P	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 + Quenched	
Hardness (HRC)	max. 38

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.

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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ONE STEP AHEAD.