

# CORROSION RESISTANT STEELS - MARTENSITIC, SEMI- MARTENSITIC AND FERRITIC STEELS

## Application Segments

Oil & Gas / CPI

## Available Product Variants

Long Products

Semi-Finished Products / Billet

## Product Description

BÖHLER N425 (UNS S41427) - Super 13Cr - is a martensitic stainless steel with a nickel content of approx. 5% and 2% molybdenum, with excellent corrosion resistance in a CO<sub>2</sub> environment and at low concentrations of chlorides and H<sub>2</sub>S and is more resistant than comparable 13%Cr steels. The steel is particularly resistant to intergranular corrosion and stress corrosion cracking, is easy to weld and offers good mechanical properties in the quenched and tempered condition even at low temperatures. Recommended application temperature from - 60 to 350°C.

The material is specially tested for toughness and behavior under sour gas load.

In order to achieve the best possible corrosion resistance, it is essential to polish the relevant surfaces.

BÖHLER N425 is available with a minimum yield strength of 95 ksi and maximum hardness of 29 HRC, making it suitable for limited NACE oxygen applications and also available as a 110 ksi version for standard and CO<sub>2</sub> applications.

This material is used in downhole completion tools for components such as packers, safety valves and other applications.

## Process Melting

Airmelted

## Applications

- > Chemical industry - general
- > CPI (incl. LNG, Urea)
- > Wellhead, X-mas trees and Manifolds (incl. Tubing hangers), BOPs
- > Components for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Other Oil and Gas + CPI components
- > Components for Industrial Gas Compressors
- > Well Completion Tools

## Technical data

Material designation		Standards	
Super13Cr	Market grade	MDS VABÖHLERN425 95KSI	NORSOK
S41427	UNS	MDS VABÖHLERN425 110KSI	

**Chemical composition (wt. %)**

C	Si	Mn	P	S	Cr	Mo	Ni	V	Ti
max. 0.03	max. 0.50	max. 1.0	max. 0.02	max. 0.005	11.5 to 13.5	1.5 to 2.5	4.5 to 6.0	0.10 to 0.50	max. 0.01

Refers to NORSOK MDS VABÖHLER N425 95/110 KSI UNS S41427

**Delivery condition**

**Hardened+Tempered, Stress relieved | 95KSI**

Hardness (HRC)	max. 29
Tensile Strength (MPa)	min. 724
Yield Strength (MPa)	655 to 758

**Hardened+Tempered, Stress relieved | 110KSI**

Hardness (HRC)	max. 32
Tensile Strength (MPa)	min. 862
Yield Strength (MPa)	758 to 862

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

Diameter mm	
<b>FORGED</b>	
101.70	-   254.00

More information regarding MOQ, lengths and tolerances upon request.

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](mailto:info@bohler-edelstahl.at)  
<https://www.voestalpine.com/bohler-edelstahl/de/>