

# CORROSION-RESISTANT STEELS - AUSTENITIC STEELS AND NON MAGNETIC STEELS

## Application Segments

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Oil & Gas/CPI

## Available Product Variants

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Long Products\*

Semi-Finished Products / Billet

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

## Product Description

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BÖHLER P511 is a weldable, non-magnetic austenitic steel with resistance to seawater and intergranular corrosion. Does not require post-weld heat treatment. This austenitic stainless Cr-Ni-Mn-Mo-N steel has corrosion resistance greater than that provided by Cr-Ni-MoTypes 316, 316L, 317, and 317L, plus approximately twice the yield strength at room temperature. In addition, BÖHLER P511 Stainless Steel has very good mechanical properties at both elevated and subzero temperatures. Unlike many austenitic stainless steels it does not become magnetic when cold worked or cooled to sub-zero temperatures. BÖHLER P511 is especially suitable for cryogenic application thanks to its excellent impact strength at -196 °C (-320 °F).

### Application

Oil and Gas, offshore, subsea, chemical, fertilizer, nuclear fuel recycling, pulp and paper, textile, food processing and marine industries. Components using the combination of excellent corrosion resistance and high strength include: pumps, valves and fittings, fasteners, cables, chains, marine hardware, boat and valves shafting, heat exchanger parts, and springs.

## Process Melting

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Airmelted

## Applications

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- > Components for food processing and animal feed
- > Flowlines & Connectors
- > Other Oil and Gas + CPI components
- > Well Completion Tools
- > Wire Lines
- > Drilling tools and components
- > Food processing industry
- > Tubular Products, Flanges, Fittings
- > Well Logging Tools
- > Fasteners, Bolts, Nuts
- > Oil & Gas / CPI
- > Valves and Actuators
- > Wellhead, X-mas trees and Manifolds (incl. Tubing hangers), BOPs

## Technical data

Material designation		Standards
XM-19	Market grade	A182/A182M
Nitronic 50		A276/A276M
S20910	UNS	NACE MR0175 / ISO 15156
		ASTM
		Others

## Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	V	Nb	N
max. 0.06	max. 1.00	4.0 to 6.0	max. 0.045	max. 0.030	20.5 to 23.5	1.50 to 3.00	11.5 to 13.5	0.10 to 0.30	0.10 to 0.30	0.20 to 0.40

Related to ASTM A479 XM19.

## Delivery condition

Solution Annealed + Quenched	
Tensile Strength (MPa)	min. 690
Yield Strength (MPa)	min. 380

## Round Bars and Wire Rod (if any)

Diameter* mm	
<b>ROLLED</b>	
5.00	13.50
5.00	130.00
<b>FORGED</b>	
130.10	304.80

\* Diameter 5.00 - 13.50 mm available as Wire Rod.

Diameter 5.00 - 130 mm round bars.

Further information on MOQ, lengths and tolerances on request.

**Long Products:** For additional specifications, technical requirements, and other dimensions, please contact our regional voestalpine BÖHLER sales companies.

**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.*

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ONE STEP AHEAD.