

# AUSTENITIC STEELS

## Available Product Variants

Long Products

## Product Description

Low carbon, chromium nickel molybdenum steel with low carbon content. Structure homogeneous, stable austenite. Weldable with analogous filler metal giving fully austenitic deposit. Resistant to intergranular corrosion in the temperature range up to 750°F (400°C). Resistance to acids having a reducing effect, like diluted sulphuric acid and hydrochloric acid is good. The steel is not susceptible to pitting, crevice and stress corrosion cracking in media containing chloride ions and possesses excellent resistance to the attack of urea and biocompatibility. Cold forming properties are good. The steel is capable of taking a mirror finish. The steel is produced as a remelt grade and thus meets the usual requirements for steel purity as specified for implant material.

## Process Melting

Airmelted + ESR

## Applications

➤ Medical                          ➤ Medical Instruments & Implants

## Technical data

Material designation	Standards	
1.4441	SEL	DIN ISO 5832-1
S31673	UNS	F138
316L	Market grade	ASTM

## Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N
max. 0.030	max. 0.75	max. 2.00	max. 0.025	max. 0.010	17.00 to 19.00	2.25 to 3.00	13.00 to 15.00	max. 0.50	max. 0.10	max. 0.10

Related to ASTM F138. Composition index = % Cr + 3.3 \* % Mo = min 26.0

## Delivery condition

### Annealed

Tensile Strength (MPa   ksi)	490   72
Yield Strength (MPa   ksi)	190   28

### Hot worked

Hardness (HB)	max. 250
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### Solution annealed + cold worked

Tensile Strength (MPa   ksi)	860   125
Yield Strength (MPa   ksi)	690   101   diameter or thickness 1.60 - 38.1 mm.

### Solution annealed + cold worked

Tensile Strength (MPa   ksi)	1,350   196   condition extra - hard - diameter or thickness 1.60 - 6.35 mm.
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## Available Dimensions

### Round Bars

mm	Diameter*		MOQ ex mill	Length	Tolerance
	inch	inch			
ROLLED					
5.00	-	15.50	0.197	-	0.610

\* Products diameter 5 up to 15.5 mm - wire hot rolled

More information regarding MOQ, length and tolerance upon request.

## Physical Properties

For more information see <https://www.voestalpine.com/bohler-edelstahl/de/>

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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