

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

Application Segments

Engineering

Available Product Variants

Long Products

Product Description

BÖHLER N324 is a corrosion-resistant steel with 13%Cr, 1,3% Mo and 1,2 % Ni-addition in the form of bars, wire, forgings, and forging stock. The steel is a free machining grade containing around 0,2% Sulfur with a better corrosion resistance and hardness and toughness than steels of standard 13% Cr variants in the hardened & tempered condition.

These products have been used typically for parts in general engineering and for uncritical cutting and non cutting medical applications, e.g. cutters and burrs, needles, scissors, drill bits, screws and even blades requiring hardness up to 48/53 HRC and resistance to wear, corrosion, and oxidation depending on instrument design and application. But usage is not limited to such applications.

High surface finish is required to develop adequate corrosion resistance after quality heat treatment. Polishing and passivation treatment is recommended. Tempering over 427 °C [800 °F] results in reduced corrosion resistance.

It is not recommended that free-machining grades be used for critical portions of surgical instruments. Free machining grades should only be considered for instrument applications when appropriate steps can be taken during manufacture to minimize the inherent limitations of this class of alloys.

Process Melting

Airmelted

Applications

[Medical](#)
[Medical Instruments & Implants](#)

Technical data

Material designation		Standards	
420F-Mod	Market grade	F899	ASTM
1.4197	SEL		
X20CrNiMoS13-1	EN		

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni
0.20 to 0.26	max. 1.00	max. 2.00	max. 0.04	0.15 to 0.27	12.50 to 14.00	1.10 to 1.50	0.75 to 1.50

Refers to ASTM F899 - 420F Mod

Delivery condition

Annealed

Hardness (HB)	max. 262
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Round Bars and Wire Rod (if any)

Diameter* mm		
ROLLED		
5.00	-	13.50

* Diameter 5.00 - 13.50 mm available as Wire Rod.

More information regarding MOQ 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.