

# CREEP RESISTANT STEELS

## Application Segments

Oil & Gas/CPI

## Available Product Variants

Long Products

## Product Description

BÖHLER T200 covers a corrosion and heat resistant steel in the form of bars, wire, forgings and forging stock. It is an austenitic, precipitation hardenable, iron-nickel-chromium-molybdenum-titanium steel of ESR quality. Alloying elements of aluminium and titanium allow this material to undergo precipitation hardening (ageing) through the formation of intermetallic phases. The addition of molybdenum increases the mechanical properties and resistance to creep at high temperatures. These products are typically used for parts in the oil and gas industry requiring moderate strength up to 704 °C (1300 °F) and oxidation resistance up to 816 °C (1500 °F), but their use is not limited to such applications.

## Process Melting

Airmelted + ESR

## Applications

- > Oil & Gas / CPI
- > Fasteners, Bolts, Nuts
- > Wellhead, X-mas trees and Manifolds (incl. Tubing hangers), BOPs
- > Oil & Gas, CPI & Renewables
- > Other Oil and Gas + CPI components
- > Well Completion Tools
- > Pumps and High Pressure Components
- > Tubular Products, Flanges, Fittings
- > Chemical industry - general
- > Well Logging Tools
- > Drilling tools and components
- > Valves and Actuators

## Technical data

Material designation		Standards	
Alloy 286	Market grade	10269	EN ISO
660		10302	
1.4980	SEL	A453/A453M	ASTM
X6NiCrTiMoVB25-15-2	EN	A638/A638M	
S66286	UNS	NACE MR0175 / ISO 15156	Others

## Chemical composition (wt. %)

C	Mn	P	S	Cr	Mo	Ni	V	Ti	Al	B
max. 0.08	max. 2.00	max. 0.040	max. 0.03	13.5 to 16.0	1.00 to 1.50	24.0 to 27.0	0.10 to 0.50	1.90 to 2.35	max. 0.35	0.001 to 0.010

Refers to ASTM A453.

## Delivery condition

### Solution annealed + precipitation hardened | Class A, B, C

Hardness (HB)	248 to 341   Equivalent to 24 - 37 HRC.
Tensile Strength (MPa)	min. 895
Yield Strength (MPa)	min. 585

### Solution annealed + precipitation hardened | Class D

Hardness (HB)	248 to 321   Equivalent to 24 - 35 HRC.
Tensile Strength (MPa)	min. 895   Diameter up to 63.5 mm.
Yield Strength (MPa)	min. 725   Diameter up to 63.5 mm.

### Solution annealed + precipitation hardened | Class D

Hardness (HB)	248 to 321   Equivalent to 24 - 35 HRC.
Tensile Strength (MPa)	min. 825   Diameter over 63.5 mm.
Yield Strength (MPa)	min. 655   Diameter over 63.5 mm.

## Round Bars and Wire Rod (if any)

Diameter* mm		
ROLLED		
5.00	-	13.50
5.00	-	130.00
FORGED		
130.10	-	254.00

\* 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. Flat bars on 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.

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