

# CREEP RESISTANT STEELS

## Application Segments

- Aerospace
- Automotive

## Available Product Variants

- Long Products\*
- Semi-Finished Products / Billet
- Plates
- Open Die Forgings

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

## Product Description

"This specification 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 have been typically used for parts in power generation engineering i.e. gas turbines 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

- > Aerospace
- > Other Aerospace Components
- > Structural parts (Aerospace)
- > Automotive
- > Motorsport industry

## Technical data

Material designation		Standards	
A286	Market grade	5732	AMS
1.4943 1.4944	SEL	5731	
X4NiCrTiMoV26-15 X6NiCrTiMoV26-15	EN		
S66286	UNS		

**Chemical composition (wt. %)**

C	Si	Mn	P	S	Cr	Mo	Ni	V	Cu	Co	Ti	Al	B
max. 0.08	max. 1.00	max. 2.00	max. 0.025	max. 0.025	13.50 to 16.00	1.00 to 1.50	24.00 to 27.00	0.10 to 0.50	max. 0.50	max. 1.00	1.90 to 2.35	max. 0.35	0.003 to 0.010

Refers to AMS 5732

**Delivery condition**

**Solution annealed + precipitation hardened**

Hardness (HB)	248 to 341
Tensile Strength (MPa)	min. 896
Yield Strength (MPa)	min. 586

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

Diameter mm			MOQ ex mill kg			Length m			Tolerance		
<b>ROLLED</b>											
12.50	-	55.00	1,150			3.00	-	4.00	IT h/k 11		
55.01	-	120.00	2,350			3.00	-	4.00	IT h/k 11		
120.01	-	130.00	2,350			3.00	-	5.00	IT h/k 14		
<b>FORGED</b>											
130.01	-	152.40	1,260			2.00	-	5.00	IT h/k 14		

**Flat Bars**

Width mm			Thickness mm			MOQ ex mill kg			Length m			Tolerance		
<b>ROLLED</b>														
15.00	-	121.00	10.00	-	86.00	1,250			3.00	-	4.00	LN 1017		
120.00	-	150.00	25.00	-	85.00	2,650			3.00	-	4.00	LN 1017		
150.00	-	275.00	20.00	-	100.00	2,550			3.00	-	4.00	LN 1017		
275.00	-	330.00	25.00	-	80.00	2,650			3.00	-	4.00	LN 1017		
<b>FORGED</b>														
100.00	-	392.00	50.00	-	250.00	3,800			2.00	-	5.00			

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  
<https://www.voestalpine.com/bohler-edelstahl/de/>