

# BEARING STEELS

## Application Segments

Aerospace

## Available Product Variants

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

This specification covers a premium aircraft-quality, double vacuum-melted low-alloy steel in the form of bars, forgings and forging stock.

It is used typically for parts such as bearings operating under heavy loads and high speeds at moderate temperatures up to 600° F. E.g. bearings and rolling elements, bearing balls and races.

## Process Melting

VIM + VAR

## Applications

- > Bearings
- > Turbine and Engine Parts (Aerosp)
- > Other Aerospace Comps.

## Technical data

Material designation		Standards	
M50	Market grade	6491	AMS
1.3551	SEL		
80MoCrV42-16	EN		

## Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	V	W	Cu	Co
0.80 to 0.85	max. 0.25	0.15 to 0.35	max. 0.015	max. 0.008	4.00 to 4.25	4.00 to 4.50	max. 0.15	0.90 to 1.10	max. 0.25	max. 0.10	max. 0.25

Related to AMS 6491

## Delivery condition

### Annealed

Hardness (HB)	max. 248   Cold finished and annealed, above 12.7 mm diameter
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### Annealed

Hardness (HB)	max. 229   Hot finished and annealed, above 12.7 mm diameter
Tensile Strength (MPa   ksi)	max. 825   120   Cold finished and annealed, max 12.7 mm diameter

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

Diameter						MOQ ex mill		Length						Tolerance
mm			inch			kg	lbs	m			ft			
ROLLED														
12.30	-	55.00	0.484	-	2.165	1,250	2,756	3.00	-	4.00	9.84	-	13.12	IT h/k 11
55.01	-	120.00	2.166	-	4.724	1,400	3,086	3.00	-	4.00	9.84	-	13.12	IT h/k 11
120.01	-	140.00	4.725	-	5.512	1,400	3,086	3.00	-	5.00	9.84	-	16.40	IT h/k 14

**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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voestalpine  
 ONE STEP AHEAD.