BEARING STEELS

Application Segments

Aerospace

Available Product Variants

Long Products

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 critical carburized parts such as bearings operating under heavy loads and high speeds at moderate temperatures. E.g. bearings and rolling elements, bearing balls and races.

Process Melting

VIM + VAR

Applications

- Bearings
- Turbine and Engine Parts (Aerospace)
- Other Aerospace Components

Technical data

Material designation	
M50 Nil	Market grade
13DCNV40	EN

Standards	
6278	AMS

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	V	W	Cu	Co
0.11 to 0.15	0.10 to 0.25	0.15 to 0.35	max. 0.015	max. 0.010	4.00 to 4.25	4.00 to 4.50	3.20 to 3.60	1.13 to 1.33	max. 0.15	max. 0.10	max. 0.25

Related to AMS 6278

Delivery condition

Annealed

Hardness (HRC)	max. 27 | Cold finished and annealed, max 12.7 mm diameter
Tensile Strength (MPa)	max. 862 | Cold finished and annealed, max 12.7 mm diameter

Annealed

Hardness (HB)	max. 255 | Hot finished and annealed, above 12.7 mm diameter

Annealed

Hardness (HB)	max. 269 | Cold finished and annealed, above 12.7 mm diameter

Round Bars and Wire Rod (if any)

Diameter mm			MOQ ex mill kg	Length m			Tolerance
ROLLED							
12.50	-	55.00	1,250	3.00	-	4.00	IT h/k 11
55.01	-	120.00	1,400	3.00	-	4.00	IT h/k 11
120.01	-	125.00	1,400	3.00	-	5.00	IT h/k 14

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/

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ONE STEP AHEAD.