

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 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

For additional specifications and other sizes please contact BÖHLER Edelstahl - Special Materials Engineering

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