

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 (Aerosp)
- > Other Aerospace Comps.

Technical data

Material designation		Standards	
M50 Nil	Market grade	6278	AMS
13DCNV40	EN		

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	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	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 ksi)	max. 862 126 Cold finished and annealed, max 12.7 mm diameter

Annealed

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

Hardness (HB)	max. 269 Cold finished and annealed, above 12.7 mm diameter
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Round Bars and Wire Rod (if any)

Diameter						MOQ ex mill		Length				Tolerance		
mm		inch				kg	lbs	m		ft				
ROLLED														
12.50	-	55.00	0.492	-	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	-	125.00	4.725	-	4.921	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 Aerospace & Land Based Turbine

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