

HEAT TREATABLE STEELS AND PRECIPITATION HARDENING STEELS

Application Segments

Aerospace

Available Product Variants

Long Products

Product Description

BÖHLER V141 is a premium aircraft-quality, low-alloy Ni-Cr-Mo steel in the form of bars, forgings and forging stock requiring high tensile and toughness values, particular in large cross sections in the hardened and tempered condition. The molybdenum addition prevents the steel from being susceptible to temper brittleness.

These products have been used typically for parts requiring a through-hardening capability up to 6 inches (152,4 mm) in nominal thickness at time of heat treatment but usage is not limited to such applications.

Process Melting

Airmelted

Applications

> Structural parts (Aerosp)

> Other Aerospace Comps.

Technical data

Material designation		Standards	
S97	Market grade	S97	BS
		S140	
		S154	

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Al
0.27 to 0.35	0.15 to 0.35	0.45 to 0.7	max. 0.025	max. 0.015	0.5 to 0.8	0.45 to 0.65	2.3 to 2.8	0.015 to 0.050

Related to BS S97

Delivery condition

Annealed

Hardness (HB)	max. 277 S97A billets and bars for forging
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Hardened and Tempered

Hardness (HB)	293 to 341 S97 B and D bright bars for further processing, S97C forgings
Tensile Strength (MPa ksi)	1,004 to 1,158 146 to 168
Yield Strength (MPa ksi)	min. 850 124

Round Bars and Wire Rod (if any)

Diameter		MOQ ex mill		Length		Tolerance
mm	inch	kg	lbs	m	ft	
ROLLED						
5.01	- 12.49	0.197	- 0.492	750	1,653	3.00 - 4.00 9.84 - 13.12 IT h/k 11
12.50	- 55.00	0.492	- 2.165	900	1,984	3.00 - 4.00 9.84 - 13.12 IT h/k 11
55.01	- 69.00	2.166	- 2.717	1,200	2,646	3.00 - 4.00 9.84 - 13.12 IT h/k 11
69.01	- 72.00	2.717	- 2.835	1,000	2,205	3.00 - 4.00 9.84 - 13.12 IT h/k 11
72.01	- 82.00	2.835	- 3.228	1,150	2,535	3.00 - 4.00 9.84 - 13.12 IT h/k 11
82.01	- 120.00	3.229	- 4.724	1,400	3,086	3.00 - 4.00 9.84 - 13.12 IT h/k 11
120.01	- 145.00	4.725	- 5.709	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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