

HEAT TREATABLE STEELS AND PRECIPITATION HARDENING STEELS

Available Product Shapes

Long Products

Product Description

This specification covers 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)

Material designation		Standards	
1.6745	SEL	BS : S98	BS
S98	Market grade	S99	

Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Al
0.36 - 0.44	0.10 - 0.35	0.45 - 0.7	< 0.025	< 0.015	0.5 - 0.8	0.45 - 0.65	0.015 - 0.050

Related to BS S98

Delivery condition

Hardened and Tempered	
Hardness	341 to 388 HB S98B, bright bars up to 152.4mm diameter
Tensile Strength	1,158 167.948 to 1,313 190.428 N/mm ² KSI
Yield Strength	min. 1,004 145.613 N/mm ² KSI

Hardened and Tempered	
Hardness	341 to 388 Unit S98B, black bars up to 152.4mm diameter

Available Dimensions

Round Bars

		Diameter				MOQ		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	-	120.01	3.229	-	4.725	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

* ISO 286

For more information see www.voestalpine.com/boehler-edelstahl

For additional specifications and other sizes please contact BÖHLER Edelstahl - Special Materials Aerospace & Land Based Turbine

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ONE STEP AHEAD.