

4140 CHROME BAR

RELATED SPECIFICATIONS:

Australia	AS 1444-2007
Europe	EN 42CrMo4+QT
Germany	DIN 42CrMo4
Great Britain	BS 709M40
Japan	JIS G4105 SCM 440
USA	ASTM A29/A29M – 91 4140

DESCRIPTION:

4140 is a 1% Chromium - Molybdenum high tensile steel supplied in the hardened and tempered, cold drawn or turned, precision ground, polished, chrome plated and final polished condition, with a typical base metal tensile strength of 850 - 1000 Mpa, plus a typical hard chrome plated surface hardness of HV 1000 - 1150.

Characterised by an extremely smooth surface finish with excellent wear and corrosion resistance, coupled with a base material giving high strength and good impact properties, plus good machinability.

TYPICAL CHEMICAL ANALYSIS:

	C %	Si %	Mn %	P %	S %	Cr %	Mo %
Min.	0.36	0.10	0.65	-	-	0.75	0.15
Max.	0.44	0.40	1.10	0.04	0.04	1.20	0.35

MECHANICAL PROPERTIES:

Yield stress $R_{p0.2}, N/mm^2, \text{min.}$	Ultimate tensile Stress, $R_m, N/mm^2$	Elongation $A_5, \%, \text{min.}$	Hardness HB
800	900	20	270

SURFACE ROUGHNESS:

The surface roughness (Ra) is between 0.10 – 0.30µm Ra (microns).

SURFACE HARDNESS:

The surface hardness is between HV 1000-1150.

STRAIGHTNESS:

The maximum deviation is 0.1mm/6.0m.

DIAMETER TOLERANCE:

Tolerance Ranges

Size mm	Tolerance mm
<51	+0/-0.025
51-102	+0/-0.050
>102	+0/-0.075

DISCLAIMER: This specification is for information purposes only. Global Metals takes no responsibility for the suitability of the steels referred to in this specification without prior notification. Global Metals takes no responsibility for any errors¹ or omissions, or for any consequences resulting from its use.

WELDABILITY:

Welding 4140 hard chrome bar in the hardened and tempered as supplied condition is not recommended and should be avoided. If however welding is really necessary the cardboard tube protection should first be removed from the heat affected area otherwise it can cause some corrosion of the plating due to fumes emitted.

MACHINING:

4140 hard chrome plated bar has very good machinability, similar to 4140 uncoated bar. Machining however should commence beneath the chrome plating, or at the unchromed surface at the end of the bar. To protect the polished chrome surface, soft materials such as copper, aluminium or mild steel should be used as clamping materials and any particles of hard chrome should be removed immediately to avoid scratching.

DELIVERY LENGTHS:

Lengths are 6.0m.

PACKAGING:

Cardboard tube.

SIZES AVAILABLE:

Diameter	
mm	inches
19.05	¾
22	
22.225	7/8
25	
25.4	1
28	
28.575	1 1/8
30	
31.75	1 ¼
32	
34.925	1 3/8
35	
36	
38.1	1 ½
40	
44.45	1 ¾

Diameter	
mm	inches
45	
47.625	1 7/8
50	
50.8	2
56	
57.15	2 ¼
60	
63.5	2 ½
70	
75	
76.2	3
80	
85	
88.9	3 ½
90	
101.6	4

COLOUR CODE: BLUEBELL & GREEN

