

CHROME BAR

Typical Analysis (Ave. values %)		C	Si	Mn	Cr	Mo	V	S	P
	4140 Chrome Bar	0.40	0.2	0.8	1.0	0.2	-	0.03	0.03
	1045 Chrome Bar	0.45	0.3	0.7				0.03	0.03

DESCRIPTION	4140 Chrome Bar	Low alloy general purpose high tensile hardened and tempered steel. Ideal material for highly stressed component applications.
	1045 Chrome Bar	Fully Killed medium carbon steel. The traditional product used in the manufacture of hard chrome bar.

STORAGE & HANDLING	The Chrome plated bars can easily be damaged, therefore they are delivered protected by packaging in cardboard or plastic tubes. It is necessary to follow several precautions while handling the product between delivery and final production	
	<ul style="list-style-type: none"> ➤ Handling – During handling, never use steel chains, always use canvas or plastic belts, fork lift tynes must be lined with wood or plastic material. ➤ Cutting – Leave the bar in its protective sleeve and cut dry, cutting emulsions containing water can be absorbed in the sleeve and cause erosion. Vice jaws must be lined with plastic or wood. ➤ Storage – Chromed bars must be stored in dry conditions and not exposed to the sun light. Direct contact with the floor should be avoided. 	

APPLICATIONS	Standard cylinders, Dump trucks, Fork lifts, Presses, Gates and Automatic doors, Tractors, Steering- Gear systems, Robots, Lifts, Hydraulic platforms, Machines for agriculture, Heavy duty cylinders, Cranes, Drilling equipment, Garbage compactors.
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HARD CHROME PLATING	Surface hardness	800-1000 HV (64-69 RC)
	Surface smoothness	0.10-0.30 µm Ra
	Surface deposit	0.025-0.050 mm

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INDUCTION HARDENING	The hardened outer layer results in greater strength and resistance to mechanical damage. Case hardness 55-56 R/C before plating.	
	<u>Dia mm</u> 12-20 >20-40 >40-80 >80-120	<u>Case depth mm</u> 1.0 +/-0.5 1.5 +/-0.5 2.0 +/-0.5 2.5 +/-0.5

TOLERANCES	Diameter	According to ISO f7 20-30 mm. -0.020 / -0.041 30-50 mm. -0.025 / -0.050 50-80 mm. -0.030 / -0.060 80-120 mm. -0.036 / -0.071
	Straightness	< 0.5 mm / 2000 mm
	Out of roundness	< ½ of ISO f7 field
	Concentricity	+/- 3 µm
	Surface roughness	Ra 0.2 µm max. Rt 3.0 µm max.
	Bearing ratio	> 50% (at depth of 0.15 µm)

MECHANICAL PROPERTIES		Tensile Strength MPa	Yield Strength MPa	Elong. %
	4140 Chrome Bar	900-1150	>735	>14
	1045 Chrome Bar	580-800	>340	>17

WELDING	<p>During welding the chromed bar must be protected against overheating and splatter. Strength properties of the joint will not be the same as the base metal. Filler metal: 4140(FOX CM2-KB electrodes or CM2-IGwire), 1045 & 20MnV6 (FOX EV50), For advice in connection with welding, please consult our engineers.</p>
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SIZE RANGE	4140 4140 Induction hardened	19.05 to 101.6 mm 25.40 to 95.25 mm
	1045 1045 Induction hardened	12.00 to 171.45 mm 25.40 to 127 mm

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Notes

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ONE STEP AHEAD.