

## CHROME PLATED BAR – AISI 1045 – INDUCTION HARDENED

**AISI 1045 Medium Carbon Steel, with a tensile strength range of 600 – 800 Mpa, an induction hardened case of HRC55-60, and a hard chrome plated surface of over 900 HV, offering medium strength, high resistance to surface indentation, excellent surface wear resistance, and good corrosion resistance.**

### TYPICAL APPLICATIONS:

High strength bearings, bushings, bolts, gears, Hydraulic and pneumatic cylinders with high surface impact resistance for mining, earth moving, machine tools, waste disposal transport, car jacks, food processing, mechanical tools, hoists and compressors etc.

### INDUCTION HARDENED CASE DEPTH:

18 – 40mm Ø	1.00 – 2.00mm
40 – 80mm Ø	1.25 – 2.50mm
80 – 125mm Ø	2.00 – 3.00mm

### PACKAGING:

Each bar supplied in a cardboard tube.

### MACHINABILITY

Requires ceramic tipped tools and special cutting blades due to induction hardened case

### TYPICAL ANALYSIS: BASE METAL

Carbon	0.45%
Silicon	0.25%
Manganese	0.75%
Phosphorus	0.040% max
Sulphur	0.040% max

### RELATED SPECIFICATIONS: BASE METAL

AS 1443 - 1994	1045
EN10083-1-1991	1.1191 C45E
JIS G 4051	S45C

### TYPICAL HARD CHROME PLATING:

Hardness:	900 -1100 HV
Roughness:	0.10 - 0.30 Ra microns
Thickness:	15 - 30 microns
100-150mm unplated at bar ends.	

### TYPICAL DIMENSIONAL TOLERANCE:

Diameter:	to ISO f7
Straightness:	0.2 mm / 1000 mm

### TYPICAL BAR LENGTHS:

Up to 18mm Ø	2000 – 3600mm
Over 18mm Ø	4000 – 7500mm

### WELDING:

Not recommended due to induction hardened case

### TYPICAL MECHANICAL PROPERTIES: BASE METAL – for guidance only

Finish	Yield Strength MPa	Tensile Strength MPa	Elongation %	Hardness HB
Drawn	600	800	9	230
Turned	400	670	20	200

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