

## CHROME PLATED BAR – AISI 1045

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**AISI 1045 Medium Carbon Steel, with a typical tensile strength range of 600 – 800 Mpa, and a hard chrome plated surface of over 900 HV, offering medium strength, excellent surface wear resistance, and good corrosion resistance.**

### Typical Applications:

Hydraulic and pneumatic cylinders for waste disposal transport, earth moving, mining, agricultural, car jacks, food processing, transport lifting, hoists, mechanical tools, compressors, machine tools etc.

### Typical Bar Lengths:

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

**Packaging:** Each bar supplied in a cardboard tube.

**Welding:** Remove cardboard tube from the heat affected zone.  
 Low hydrogen electrodes recommended and a pre-heat at 50°C – 200°C.

### Typical Analysis: Base Metal

<b>Carbon</b>	<b>0.45%</b>
<b>Silicon</b>	<b>0.25%</b>
<b>Manganese</b>	<b>0.75%</b>
<b>Phosphorus</b>	<b>0.040% max</b>
<b>Sulphur</b>	<b>0.040% max</b>

### Related specifications: Base Metal

AS 1443-1994	1045
EN10083-1-1991	1.1191 C45E
JIS G 4051	S45C
SAE & UNS	1045 & G10450

### 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 Mechanical Properties: Base Metal

<b>Finish</b>	<b>Yield Strength Mpa</b>	<b>Tensile Strength MPa</b>	<b>Elongation %</b>	<b>Hardness HB</b>
<b>Drawn</b>	600	800	9	230
<b>Turned</b>	400	670	20	200

Welding details and mechanical properties for guidance only