Hard Chrome Plated Shafting Specifications

Chrome Plated Shafting

Grade & Strength
Our chrome plated shafting is produced from C45 and C50 steel which is virtually the same as AISI 1045/1050 steel. The yield point is 320MPa (46,400 psi) and the Ultimate Tensile Strength (UTS) is 520 MPa minimum (75,400 psi minimum).

Roundness and Straightness
The out of roundness tolerance is 1/2 of the ISO 286-2 f7 for shafts greater than 20mm and 1/2 of the ISO 286-2 f8 for shafts 20mm and smaller. Straightness is better than 0.5mm/2000mm.

Surface Roughness
The surface roughness is RMS 8 or better. (Nominal values Ra less than or equal to 0.2um).

Thickness of Chrome Plating
The chromium layer on shafting 20mm and less in diameter is 14um minimum (0.00055") and greater than 20mm is 20um minimum (0.00078").

Surface Hardness
The Rockwell hardness of the chrome plating itself is HR C 66-69.

High Strength 100,000 min. PSI
This material is produced from Euronorm/DIN 42CrMo4 steel which is very similar to AISI/ASTM 4140 and is quenched and tempered. It is stocked in both the induction hardened and non induction hardened condition.

Mechanical Properties of High Strength Shafting

<table>
<thead>
<tr>
<th>Diameters</th>
<th>Minimum Yield</th>
<th>U. T. S.</th>
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<tbody>
<tr>
<td>16mm to 120mm</td>
<td>106,000 psi</td>
<td>130,491 to 166,739 psi</td>
</tr>
<tr>
<td>120mm to 140mm</td>
<td>100,000 psi</td>
<td>123,242 to 166,739 psi</td>
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Induction Hardened Shafting Specifications

Surface Hardness
The 1045 induction hardened bars have a case hardness of rockwell C 50/60 and the 1060 induction hardened bars have a case hardness of rockwell C 60/65.

Depth of Hardness
our induction hardened bars 1045 and 1060 have a case hardened depth range of 0.060”/0.090”