

### Induction Hardened chrome plated Steel bars C45 Technical Properties.

- **Diameter Tolerance** Standard is ISO-f7. We can provide special tolerance at premium price.
- **Residual Magnetism** Standard is Max. 50 Gauss.
- **Roundness** – max ½ from the diameter tolerance (½ tol.f7).
- **Surface Roughness** is Ra = max 0.20 µm.
- **Surface Hardness** – Chrome Layer hardness is 800-1000 HV0,1. Steel-grade C45 IH surface hardness is minimum 54HRC.
- **Straightness** is max 0,3 [mm]/1000 [mm] .
- **Chrome Layer thickness** for  $\varnothing \leq 19.05$  [mm] is min. 15[µm] and for  $\varnothing > 20$ [mm] is minimum 20[µm].

### Induction Hardened chrome plated steel bars C45 corrosion resistance.

- **Standard Corrosion Resistance** for  $\Phi < 20$  is R9/120h and for  $\Phi \geq 20$  is R9/200h according to NSS tests.
- We can provide higher layer or double chrome layer at premium price.

### Corrosion Test standards table.

ISO9227	ASTM	DIN50021	Salt Spray Test
NSS	B117	SS	Neutral Salt Spray
AASS	B287	ESS	Acetic Acid Salt Spray

### Steel grade correspondents table.

EN	DIN	BS	AFNOR
C45	CK45	CK45	080N45

### Chemical Composition table C45 according to EN 10083-2 : 2006.

C	Si	Mn	P	S	Cr	Mo	Ni	Cr+Mo+Ni
0.42	Max	0.50	Max	Max	Max	Max	Max	Max
0.50	0.40	0.80	0.030	0.040	0.40	0.10	0.40	0.63

**Mechanical Properties table C45 according to EN 10083-2 : 2006.**

<b>Diameter</b> Ø (mm)	<b>Tensile Strength</b> Rm (N/mm <sup>2</sup> )	<b>Yeld Point</b> Rp02 (N/mm <sup>2</sup> )	<b>Elongation</b> A5 (%)	<b>Hardness Brinell</b> HB
<Ø≤16	Min. 710	Min. 500	Min.6	200 min
16<Ø≤19.05	Min. 650	Min. 410	Min.7	190 min
20<Ø≤100	Min. 580	Min. 305	Min.16	172 min
100<Ø≤250	Min. 560	Min. 275	Min.16	162 min
250<Ø≤500	Min. 540	Min. 240	Min.16	158 min

**Hardening Depth table**

<b>Ø</b> (mm)	<b>SHD</b> (mm)
6	0.5-0.8
8	0.6-0.9
10	0.7-1.0
12-14	0.8-1.2
14	0.9-1.3
15	1.0-1.4
16-18	1.1-1.5
20-22	1.2-1.5
24	1.4-1.6
25	1.5-1.7
28	1.5-1.8
30-38	1.5-1.9
40-45	1.6-2.0
50-85	2.-2.6
90-101.6	2.-2.6
105-160	2.2-3
>160	3-4

**Standard packaging is made with plastic sleeves or cardboard tubes (depending on the product's diameter).**

**As an Extra protection with additional cost we can provide also wooden boxes.**