

## Average Chemical analysis

C%	Si%	Mn%	S%	V%	C.E%(*)
0.38	0.45	1.40	0.020	0.13	0.72

\*CE=%C+%Mn/6+(%Cu+%Ni)/15+(%Cr+%Mo+%V)/5

Average calculated using max lower/upper values allowed by the EN10267 standard.

## Mechanical Properties

Ø mm	Tensile Strenght Rm N/mm <sup>2</sup>	Yield Point Rp0.2 N/mm <sup>2</sup>	Elong. A5%	HB min.	Norm
<20	min.850	min. 600	min.6	min.250	Technical data according to internal norm.
20-200	800-950	min. 520	min.12	min.230	
					EN 10267

## Corresponding standards

A-CHROME	EN	DIN	AFNOR	SAE/ASTM
A-CHROME 75	38MnVS6	38MnVS5	30MV6	1045V

Residual Magnetism Max. 50 Gauss

## Tolerance Range according to ISO 286-2

### Table for ISO-f7 in µm

Size (mm)	upper	lower
>6-10	-13	-28
>10-18	-16	-34
>18-30	-20	-41
>30-50	-25	-50
>50-80	-30	-60
>80-120	-36	-71
>120-180	-43	-83
>180-250	-50	-96

## Chrome Layer:

Φ > 20 mm - 20my

Φ ≤ 19.05mm - 15my

## Surface Roughness

The surface roughness (Ra) is always less then 0.20 my and normally in the average of 0.05-0.15 my, the Rt is less then 2.0 my and with an average of 0.5-1.5 my.

## Surface Hardness

The Chrome Layer hardness is 900 HV 0.1 min

## Straightness

$\Phi < 20$  ▶ 0.3/1000 mm

$\Phi \geq 20$  ▶ 0.2/1000 mm

## Roundness

The out of roundness is maximised at 50% of the diameter tolerance range.

## Diameter tolerance

ISO-f7 is standard; Other tolerance can be supplied upon request.

## Delivery Lengths

Production lengths are between 4500-10000 mm

Standard lengths for diam

< 60 mm 5600-6200 mm average 6100-0/+100 mm

> 60 mm 6200-7200 mm average 7100-0/+100 mm

The 'unchromed length' of each bar, i.e. the distance at each end over which the Chrome-Layer properties and tolerance can not be guarantee, is at most 150 mm per end, i.e 300 mm in total per bar for the material produced on the conventional horizontal bath, for the material chromed on the continuous lines the unchromed length is ab. 15-20 mm of each end. Fixed, cut length can be supplied if required, but at a premium price.

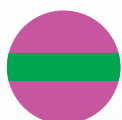
## Weldability & Machinability

A-CHROME 75 is based on a medium carbon, microalloyed steel combining high strength with good machinability and weldability. The particular chemical analysis confers mechanical properties comparable to medium carbon steels quenched and tempered.

## Marking

Each bar is marked outside over the plastic or cardboard tube with : manufacturing date, product name, diameter, tolerance range, standard corrosion, heat No. to facilitate full traceability.

**Rod end will be printed in violet with green line**



## Corrosion Resistance

The chromium layer generated in hard-chrome plating process contains micro-cracks, our A-CHROME products are made by a controlled distribution of cracks. Special pre-finishing surface and polishing after chroming ensure a very high corrosion resistance. The Corrosion resistance for hard chrome plated bars are based on a salt spray test following the ISO 9227 standard combined with the ISO 10289 for the evaluation of the rating.

ISO9227	ASTM	DIN50021	Salt Spray Test
NSS	B117	SS	Neutral Salt Spray
AASS	B287	ESS	Acetic Acid Salt Spray
CASS	B368	CASS	Copper-accelerated acetic acid salt spray

*Salt spray tests we are capable to perform internally.*

### A-CHROME

Standard Corrosion resistance for  $\Phi < 20$  R9/120h NSS; for  $\Phi \geq 20$  R10/120h NSS and R9/200h NSS.

### A-CHROME EXTRA

Standard Corrosion resistance  $\Phi \geq 20$ -140 R10/120h NSS and  $\Phi \geq 20$ -140 R9/500h NSS.

### A-CHROME EXTRA PLUS

Standard Corrosion resistance for  $\Phi \geq 20$ -140 R10/500h NSS.

*\*DOUBLE CHROME ON REQUEST*

## Packaging

A-CHROME can be supplied with two different packaging options: • Paper Tubes • White Plastic Sleeve

On request with additional cost:

- Seaworthy protected for overseas shipment by aluminium foil
- Wooden boxes



**Our products packaging is recyclable**

## Hardness depth

All  $\Phi$ : between 1.0 and 3.2mm

## Surface Hardness

Steelgrade 38MnVS6 IH Min.55HRC

## Certifications

ISO 9001

ISO 14001

OHSAS 18001