

Average Chemical analysis

C%	Si%	Mn%	S%	Cr%	Mo%
0.42	0.25	0.80	0.020	1.050	0.20

Average calculated using max lower/upper values allowed by the EN10083-3 standard.

Mechanical Properties

Ø mm	Tensile Strenght Rm N/mm ²	Yield Point Rp0.2 N/mm ²	Elong. A5%	HB min.	Norm	KV
6<Ø≤20	1100-1300	min. 900	min.10	239	EN 10083-3	27J at -20°C
16<Ø≤40	100-1200	min. 750	min.11			
40<Ø≤100	900-110	min. 650	min.12			
100<Ø≤160	800-950	min. 550	min.13			
160<Ø≤200	750-900	min. 500	min.14			

Corresponding standards

A-CHROME	EN	DIN	BS	AFNOR	SAE/ASTM
A-CHROME 100	42CrMo4 +QT	42CrMo4V	708M40	42CD4	4140

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
>180-200	-50	-96

Chrome Layer:

Φ >20mm - 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

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

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

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 100 is a steel with good hardenability, not very sensitive to overheating and not subject to brittleness. It's the most widely used quenched and tempered steel in accordance with good resistance and machinability. Can also be hardened superficially in order to raise the wear resistance. Limited weldability due to the risk of cracking, it is recommended that the pre-heating. In the case of chrome bars is recommended not to exceed 250-300°C for not deteriorate the performance of the galvanic coating.

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 purple.



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

Certifications

ISO 9001	ISO 14001	OHSAS 18001
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