

## HV02

### Nickel chrome plated barsteel

#### General

Nickel chrome plated bars are available in TiRun 150 en TiRun 500.  
The hard chrome plated bars will be mainly used as pistonrods for hydraulic cilindrs.  
In aggressive environments like the process industry, in the mining industry, along the shore, on the roads and in the offshore-industry. Everywhere where a very high corrosion-resistance is required.

#### Corrosion resistance (Rating 10, this means 100% corrosion free)

	ISO 9227-NSS test	ISO 9227-AASS test
TiRun 500	min. 1500 hours	min. 500 hours
TiRun 150	min. 500 hours	min. 150 hours

#### Layer thickness (minimum) in µm

	Nickel	Chrome
TiRun 500	30 µm	20 µm
TiRun 150	10 µm	20 µm

Hardness: nickellayer is about 350 HV, the chromelayer min. 800 HV.

#### Chemical (average) analysis for 280 X

C%	Si%	Mn%	S%	V%
0,18	0,35	1,55	0,025	0,11
CE%: max 0,55%				

#### Mechanical properties 280X

	Diameter in mm		
	20 - 90	90 - 125	>125
Yieldstrength N/mm <sup>2</sup>	≥ 520	≥ 440	≥ 350
Tensilestrength N/mm <sup>2</sup>	650-800	550-700	550-700
Elongation (A5) min. %	>19	>19	>19
Impacttest KV (J) at -20°C	min. 27 J	no guarantee	min. 27 J

#### Out of roundness

Maximum 1/2 of the diameter tolerance (f7)

#### Surface roughness

Ra max 0,20 µm

Rt max 0,20 µm

#### Straightness

For diameters ≥ 30 mm: maximum deviation of 0,1 mm per 1000 mm  
(< 30 mm: 0,3 mm per 1000 mm).

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