

The high grade steel chrome bar with good machinability and good corrosion resistance.

### 38MnVS6

#### Steel grade correspondence

EN 10267	Werkstoff Nr.	DIN
39MnVS6	1.1303	39MnVS6/38MnVS6

#### Standard parameters

<b>Steel grade</b>	38MnVS6 (W1.1303)
<b>Diameter range (metric)</b>	19.05 - 101.60 mm
<b>Diameter range (imperial)</b>	3/4" - 4"
<b>Tolerance</b>	ISO f7 (upon request: h7) (EN ISO 286-2)
<b>Roundness</b>	IT / 2
<b>Standard length</b>	- for $\varnothing < 60$ mm: 5600 - 6200 mm - for $\varnothing \geq 60$ mm: 6000 - 7200 mm Upon request: special lengths on all diameters
<b>Surface roughness</b>	Ra max. 0.20 $\mu\text{m}$ (statistic average: 0.05 - 0.15 $\mu\text{m}$ ) (EN ISO 4287)
<b>Chrome layer thickness</b>	< $\varnothing 20$ mm: min. 15 $\mu\text{m}$ $\geq \varnothing 20$ mm: min. 20 $\mu\text{m}$
<b>Chrome layer hardness</b>	min. 900 HV(0.1)
<b>Straightness</b>	$\leq \varnothing 16$ mm: max. 0.3 mm : 1000 mm > $\varnothing 16$ mm: max. 0.2 mm : 1000 mm

#### Chemical composition acc. to W1.1303 (% of weight)

C	Si	Mn	P	S
0.34 - 0.41	0.15 - 0.80	1.20 - 1.60	0.025	0.020 - 0.060
Cr max	Mo max	V	N	
0.30	0.08	0.08 - 0.20	0.01 - 0.02	

#### Corrosion resistance properties NSS

BACV in standard execution
For $\varnothing < 20$ mm: Rating 9 after 120 h
For $\varnothing \geq 20$ mm: Rating 9 after 200 h
BACV with "Cromsteel-500" corrosion protection enhancement
Rating 9 after 500 h

The corrosion resistance is tested in our own internal salt spray laboratory according to ISO 10289 / ISO 9227.

By request we can guarantee material with impact test

#### ISO tolerances for diameter range

$\varnothing$	> 3 mm $\leq 6$ mm	> 6 mm $\leq 10$ mm	> 10 mm $\leq 18$ mm	> 18 mm $\leq 30$ mm	> 30 mm $\leq 50$ mm	> 50 mm $\leq 80$ mm	> 80 mm $\leq 120$ mm	> 120 mm $\leq 180$ mm	> 180 mm $\leq 200$ mm
f7	-10 $\mu\text{m}$ -22 $\mu\text{m}$	-13 $\mu\text{m}$ -28 $\mu\text{m}$	-16 $\mu\text{m}$ -34 $\mu\text{m}$	-20 $\mu\text{m}$ -41 $\mu\text{m}$	-25 $\mu\text{m}$ -50 $\mu\text{m}$	-30 $\mu\text{m}$ -60 $\mu\text{m}$	-36 $\mu\text{m}$ -71 $\mu\text{m}$	-43 $\mu\text{m}$ -83 $\mu\text{m}$	-50 $\mu\text{m}$ -96 $\mu\text{m}$
h7	0 $\mu\text{m}$ -12 $\mu\text{m}$	0 $\mu\text{m}$ -15 $\mu\text{m}$	0 $\mu\text{m}$ -18 $\mu\text{m}$	0 $\mu\text{m}$ -21 $\mu\text{m}$	0 $\mu\text{m}$ -25 $\mu\text{m}$	0 $\mu\text{m}$ -30 $\mu\text{m}$	0 $\mu\text{m}$ -35 $\mu\text{m}$	0 $\mu\text{m}$ -40 $\mu\text{m}$	0 $\mu\text{m}$ -46 $\mu\text{m}$

#### Mechanical properties acc. to W1.1303 (HR)

$\varnothing$ (mm)	Rm Tensile strength (N/mm <sup>2</sup> )	Rp0.2 Yield point (N/mm <sup>2</sup> )	A5 Elongation (%)
$\varnothing \leq 100$	800 - 950	min 520	min 12
100 < $\varnothing \leq 200$	800 - 1000	min 520	min 12

1 MPa = 1 N/mm<sup>2</sup>  
1 KSI = 6.8947 N/mm<sup>2</sup>

#### Diameter range

$\varnothing$ (mm)	$\varnothing$ (inch)	weight (Kg/m)	$\varnothing$ (mm)	$\varnothing$ (inch)	weight (Kg/m)	$\varnothing$ (mm)	$\varnothing$ (inch)	weight (Kg/m)
19.05	3/4"	2.24	36		7.99	63.5	2" 1/2	24.85
20		2.46	38		8.90	65		26.03
22		2.98	38.1	1" 1/2	8.94	69.85	2" 3/4	30.06
22.225	7/8"	3.04	40		9.86	70		30.19
24		3.55	42		10.87	75		34.66
25		3.85	44.45	1" 3/4	12.17	76.2	3"	35.78
25.4	1"	3.98	45		12.48	80		39.44
28		4.93	50		15.41	82.55	3" 1/4	41.99
28.575	1" 1/8	5.03	50.8	2"	15.90	85		44.52
30		5.55	55		18.64	88.9	3" 1/2	48.70
31.75	1" 1/4	6.21	56		19.32	90		49.91
32		6.31	57.15	2" 1/4	20.13	95		55.61
34.925	1" 3/8	7.52	60		22.18	100		61.62
35		7.55	63		24.46	101.6	4"	63.61

More diameters can be supplied upon request.

#### Packaging options

Each bar is individually packed in high-quality plastic extrusion sleeve (food industry grade polyethylene). The plastic sleeve is marked for full traceability with the following information:

- Cromsteel trademark
- product code
- outside diameter
- tolerance
- heat number
- date of production
- shift and operator code

The bars are then packed together in bundles and/or in wooden boxes.

Other packaging options are available, like:

- pallets for cut and machined parts
- plastic rings (instead of plastic extrusion sleeve)
- cardboard tubes (instead of plastic extrusion sleeve)
- aluminium vacuum bags (for sea freight)
- special protection oiling