

20MnV6

The ideal chrome bar for hydraulic applications under harsh climatic conditions and extreme cold, with lower brittleness and superior impact resistance. Now also induction hardened for effective protection from scratches, dirt and stones.

Steel grade correspondence

EN 10267	Werkstoff Nr.	DIN
19MnVS6	1.5217	20MnV6

Standard parameters

Steel grade	20MnV6 (W1.5217)
Diameter range (metric)	6 - 200 mm
Diameter range (imperial)	1/4" - 8"
Tolerance	ISO f7 (upon request: h7) (EN ISO 286-2)
Roundness	IT / 2
Standard length	- for $\varnothing < 60$ mm: 5600 - 6200 mm - for $\varnothing \geq 60$ mm: 6500 - 7200 mm (upon request: special lengths on all diameters)
Surface roughness	Ra max. 0.20 μm (statistic average: 0.05 - 0.15 μm) (EN ISO 4287)
Surface hardness	min. 42 HRC
Hardened layer depth	from 0.4 to 3.4 mm
Chrome layer thickness	< $\varnothing 20$ mm: min. 15 μm $\geq \varnothing 20$ mm: min. 20 μm
Chrome layer hardness	min. 900 HV(0.1)
Straightness	$\leq \varnothing 16$ mm: max. 0.3 mm : 1000 mm $> \varnothing 16$ mm: max. 0.2 mm : 1000 mm



By request we can guarantee material with impact test

Chemical composition acc. to W1.5217 (% of weight)

C	Si	Mn
0.15 - 0.22	0.15 - 0.80	1.20 - 1.60
P max	S	V
0.025	0.02 - 0.06	0.08 - 0.20

Mechanical properties acc. to W1.5217 (HR)

\varnothing (mm)	Rm Tensile strength (N/mm ²)	Rp0.2 Yield point (N/mm ²)	A5 Elongation (%)
$\varnothing \leq 100$	600 - 750	min 390	min 16
$100 < \varnothing \leq 200$	650 - 850	min 420	min 16

1 MPa = 1 N/mm²
1 KSI = 6.8947 N/mm²

ISO tolerances for diameter range

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

Corrosion resistance properties NSS

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

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

Diameter range

Ø (mm)	Ø (inch)	weight (Kg/m)	Ø (mm)	Ø (inch)	weight (Kg/m)	Ø (mm)	Ø (inch)	weight (Kg/m)
6		0.22	32		6.31	82.55	3" 1/4	41.99
6.35	1/4"	0.25	34.925	1" 3/8	7.52	85		44.52
8		0.39	35		7.55	88.9	3" 1/2	48.70
9.525	3/8"	0.56	36		7.99	90		49.91
10		0.62	38		8.90	95		55.61
12		0.89	38.1	1" 1/2	8.94	100		61.62
12.7	1/2"	0.99	40		9.86	101.6	4"	63.61
13		1.04	42		10.87	105		67.94
14		1.21	44.45	1" 3/4	12.17	110		74.56
15		1.39	45		12.48	115		81.49
15.88	5/8"	1.55	50		15.41	120		88.73
16		1.58	50.8	2"	15.90	125		96.28
18		2.00	55		18.64	127	5"	99.39
19.05	3/4"	2.24	56		19.32	130		104.14
20		2.46	57.15	2" 1/4	20.13	140		120.78
22		2.98	60		22.18	150		138.65
22.225	7/8"	3.04	63		24.46	152.4	6"	143.12
24		3.55	63.5	2" 1/2	24.85	160		157.75
25		3.85	65		26.03	170		178.08
25.4	1"	3.98	69.85	2" 3/4	30.06	177.8	7"	194.80
28		4.93	70		30.19	180		199.65
28.575	1" 1/8	5.03	75		34.66	190		222.45
30		5.55	76.2	3"	35.78	200		246.48
31.75	1" 1/4	6.21	80		39.44	203.2	8"	254.43

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

