

42CrMo4

Steel grade correspondence

EN 10083	Werkstoff Nr.	DIN	STAS 500	AFNOR A36101 A35501	BS 1449 4360	UNI 7070	JIS G3106	AISI SAE ASTM
42CrMo4 42CrMoS4	1.7225 1.7227	42CrMo4	42MoCr11	42CD4 42CrMo4	708A42 708M40 709M40	42CrMo4	SCM440(H)	4140 4142

Standard parameters

Steel grade	42CrMo4 (EN 10083-3)
Diameter range (metric)	16 - 200 mm
Diameter range (imperial)	3/4" - 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: 6000 - 7200 mm (upon request: special lengths on all diameters)
Surface roughness	Ra max. 0.20 μ m (statistic average: 0.05 - 0.15 μ m) (EN ISO 4287)
Chrome layer thickness	< $\varnothing 20$ mm: min. 15 μ m $\geq \varnothing 20$ mm: min. 20 μ m
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

Chemical composition acc. to EN 10083 - 3
(% of weight)

C	Si max	Mn	P max
0.38 - 0.45	0.40	0.60 - 0.90	0.025
S max	Cr	Mo	
0.035	0.90 - 1.20	0.15 - 0.30	

By request we can guarantee material with impact test

Mechanical properties

at room temperature in the quenched and tempered condition (+QT)

\varnothing (mm)	Re min (MPa)	Rm (MPa)	A min (%)
$\varnothing \leq 16$	900	1100 - 1300	10
$16 < \varnothing \leq 40$	750	1000 - 1200	11
$40 < \varnothing \leq 100$	700	900 - 1100	12
$100 < \varnothing \leq 160$	550	800 - 950	13

1 MPa = 1 N/mm²
1 KSI = 6.8947 N/mm²

ISO tolerances for diameter range

\varnothing	> 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	-16 μ m -34 μ m	-20 μ m -41 μ m	-25 μ m -50 μ m	-30 μ m -60 μ m	-36 μ m -71 μ m	-43 μ m -83 μ m	-50 μ m -96 μ m
h7	0 μ m -18 μ m	0 μ m -21 μ m	0 μ m -25 μ m	0 μ m -30 μ m	0 μ m -35 μ m	0 μ m -40 μ m	0 μ m -46 μ m

Corrosion resistance properties NSS

BOC in standard execution	BOC 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

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

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

