

42CrMo4

Quenched and tempered steels

Material no.	17225
according to	DIN EN ISO 683-2
Tensile strength class	D

General

The steel grade 42CrMo4 belongs to the product category of quenched and tempered steels according to DIN EN ISO 683-2. These are used for highly stressed components, where the combination of high strength and wear-resistance with tenaciousness is of utmost importance.

Chemical composition¹⁾²⁾

(in percent by weight)

	min.	max.
C	0.38 %	0.45 %
Si ³⁾	0.10 %	0.40 %
Cu		0.40 %
Mn	0.60 %	0.90 %
P ⁴⁾		0.020 %
S ⁴⁾		0.010 %
Cr	0.90 %	1.20 %
Mo	0.15%	0.30%

1) Heat analysis

2) Reference analysis

3) Steels may be supplied with lower silicon content. In this case, other materials must be used to kill the steels.

4) According to DIN EN ISO 683-2 the following is applicable:

P ≤ 0.025 % und S ≤ 0.035 %

Mechanical properties⁵⁾

Test direction	Yield strength R _{p0.2}
longitudinal	600 – 800 MPa
transversal	650 – 900 MPa

Test direction	Tensile strength R _m
longitudinal	850 – 1050 MPa
transversal	600 – 800 MPa

Test direction	Total elongation A ₈₀ ⁶⁾
longitudinal	6 – 10 %
transversal	5 – 9 %

Test direction	Total elongation A ₅ ⁶⁾
longitudinal	9 – 15 %
transversal	8 – 14 %

5) The values in the table above are mainly from coil ends. Slightly lower values are to be expected in the middle of the coil.

The mechanical properties are not standardized for the condition of delivery.

6) The following applies to the nominal thickness e:

e < 3 mm: A₈₀

e ≥ 3 mm: A₅

Available dimensions

Hot-rolled coils unpickled, mill edge

Thickness in mm	Width in mm
2.00 – 2.24	900 – 1,300
2.25 – 2.99	900 – 1,350
3.00 – 3.99	900 – 1,450
4.00 – 4.99	900 – 1,500
5.00 – 5.99	900 – 1,650
6.00 – 15.00	900 – 1,700

Thicknesses ≤ 25 mm on request.

Widths ≤ 2,000 mm on request.

Hot-rolled coils pickled, mill edge

Thickness in mm	Width in mm
2.00 – 2.24	900 – 1,300
2.25 – 2.99	900 – 1,350
3.00 – 3.99	900 – 1,450
4.00 – 4.99	900 – 1,500
5.00 – 9.99	900 – 1,530
10.00 – 10.99	900 – 1,400
11.00 – 11.99	900 – 1,250
12.00 – 12.49	900 – 1,150

Trimmed material up on request.

Hot-rolled coils, slit lengthwise

Thickness in mm	Width in mm
2.00 – 2.99	100 – 640
3.00 – 4.60	100 – 690
4.61 – 6.00	100 – 740

Widths < 100 mm on request.

Thicknesses > 6 mm on request.