SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.7220 · CLASS 1.7

CMo3Z

Material no. 1.7220

also listed as 34CrMo4

Chemical composition, mechanical and physical property values, and 159 standard designations from 23 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.74 g/cm³	159 in 23 regions	15 on file

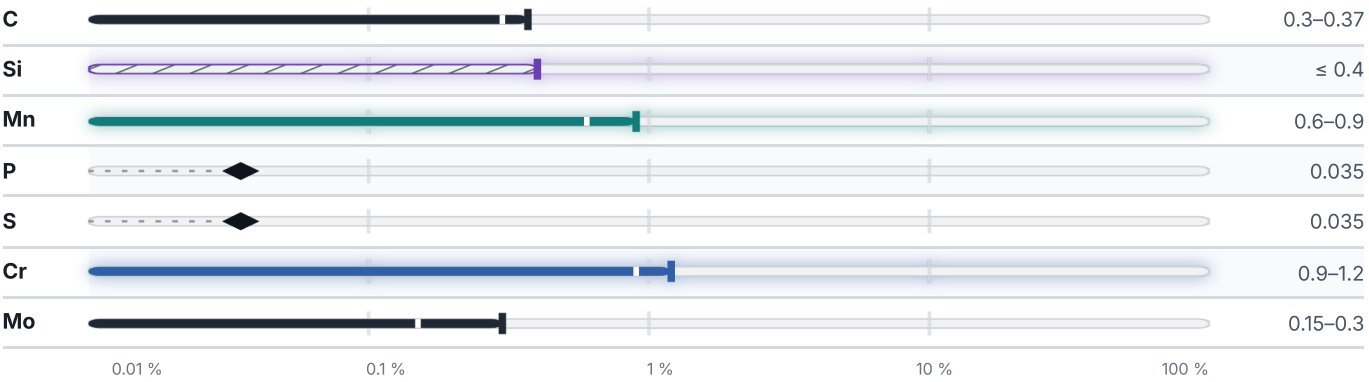
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 97.2 % · Cr — 1.1 % · Mn — 0.8 % · Si — 0.4 % · Traces & impurities · 0.6 %

Logarithmic scale, 0.01 % to 100 % — every value here compares directly, decade by decade.



The scale is logarithmic, not the element's raw share of the alloy — the only honest way to fit 0.01 % and 100 % in one picture, and it means every value here can be compared with every other.

Predicted transformation temperatures

Not enough recorded composition to predict a transformation temperature for this grade — missing: Ni.

Mechanical properties

51 values across 10 conditions

QUENCHED AND TEMPERED · ROUND PRODUCTS	A % · Lo = 5,65 √So
≤ 16	11
16 – 40	12
40 – 100	14
100 – 160	15
160 – 250	15

QUENCHED AND TEMPERED	RM N/mm²
≤ 8	1000
8 – 20	900
20 – 50	800
50 – 80	750

QUENCHING 850 - 880°C, OIL, DRAWING 585 - 650°C	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²
max thickness 100	950	750	13	42	650
max thickness 120	900	710	13	42	650
max thickness 150	800	600	14	45	650
max thickness 200	700	500	16	45	600

CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A %	Z %	HB
Tempering after normalizing	690	440	9	25	201
Tempering after quenching	740	540	9	25	217

SOFT ANNEALED	RM N/mm²	A80 %
0.3 – 3	600	16

QUENCHING AND DRAWING	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²
Ø 25	930	835	12	45	780

TREATED TO IMPROVE SHEARABILITY	HB
Treated to improve shearability	255

SOFT ANNEALED	HB	HV
Soft annealed	223	185

CONDITION · DIMENSION	HB
(annealing) , GOST 4543-71	241

QUENCHED AND TEMPERED	HV
Quenched and tempered	315–465

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10^-6/K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	7.82	218	–	–	–	328
100	7.8	216	12.3	40.6	462	360
200	7.77	–	12.6	39.8	–	–
300	7.74	205	12.9	38.5	–	425
400	7.7	195	13.9	37.3	–	523
500	7.66	186	14.4	–	–	628
600	–	–	14.6	–	–	–

CONDITION · DIMENSION	E GPa	ALPHA 10^-6/K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m	G GPa
20	210	–	–	461	180	81
100	205	12.3	40.61	–	–	79
200	–	12.6	–	–	–	–
300	185	–	38.52	–	–	71
400	–	13.9	37.26	–	–	–
600	–	14.6	–	–	–	–

PROPERTY	VALUE	UNIT
Density	7.74	g/cm³
Transformation point Ac1	755	°C
Transformation point Ac3	800	°C
Transformation point Ar3	750	°C
Transformation point Ar1	695	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	

PROPERTY	VALUE	UNIT
Flake sensitivity	predisposed	
Temper brittleness	not predisposed	

Heat treatment

11 regimes

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—
source joins the operations with + / procedural order		
Quenching	Temperature not stated	—
Normalizing	Temperature not stated	—
Tempering	500–600 °C	Oil
source joins the operations with + / procedural order		
Quenching	Temperature not stated	—
Tempering	Temperature not stated	—
source joins the operations with + / procedural order		
Quenching	880 °C	—
Tempering	650 °C	—
source joins the operations with + / procedural order		
Quenching	Temperature not stated	—
Tempering	Temperature not stated	—
source joins the operations with + / procedural order		
Annealing	Temperature not stated	—
Annealing	Temperature not stated	—
Tempering	Temperature not stated	—
Normalizing	Temperature not stated	—
Tempering	Temperature not stated	—
Spheroidize annealing	Temperature not stated	—
source joins the operations with + / procedural order		
Quenching	830–870 °C	Oil
Tempering	500–600 °C	—
source joins the operations with + / procedural order		

STEP	TEMPERATURE	MEDIUM
Quenching	830–870 °C	—
Tempering	500–600 °C	—
Quenching and tempering	Temperature not stated	—
Tempering	580 °C	—

Designations across standards

159 designations · 12 documented as identical

United States 24

G41300	uns
G41350 This grade's own name	uns
G41370 This grade's own name	uns
H41350 This grade's own name	uns
H41370 This grade's own name	uns
4130	aisi-sae
4135 This grade's own name	aisi-sae
4135 4137	aisi-sae
4135H This grade's own name	aisi-sae
4137 This grade's own name	aisi-sae
4137 4135	aisi-sae
4137H This grade's own name	aisi-sae
G41300	aisi-sae
G41350	aisi-sae
G41370	aisi-sae
H41350	aisi-sae
H41370	aisi-sae
J13045	aisi-sae
J13048	aisi-sae
J13345	aisi-sae
4135	astm
A322	astm
A331	astm
AMS 6352 F	astm

Spain 12

25CrMo4	une
34CrMo4	une
35CrMo4	une
35CrMo4DF	une
AM25CrMo4	une
AM26CrMo4	une
AM34CrMo4	une
F.1250	une
F.1254	une
F.222	une
F.8231	une
F.8331	une

Russia / CIS 12

30ChMNA	gost
30KhM	gost
30XM	gost
30XM	gost
35ChM	gost
35KHM	gost
35KHML	gost
35XM	gost
35XM	gost
AS38KHGM	gost
AC38XГM	gost
ст.35XM	gost

France 11

25CD4	afnor
25CD4FF	afnor
25CrMo4	afnor
30CD4	afnor
30CD4FF	afnor
34CD4	afnor
34CD4FF	afnor
34CrMo4	afnor
34CrMo4RR	afnor
35CD4	afnor
38CD4	afnor

United Kingdom 10

1717COS110	bs
19B	bs
25CrMo4	bs
34CrMo4	bs
708A25	bs
708A30	bs
708A37	bs
708M32	bs
738M32 This grade's own name	bs
EN19B	bs

United States / Aerospace 10

6345	ams
6346	ams
6348	ams
6350	ams
6351	ams
6360	ams
6361	ams
6370	ams
6371	ams
6374	ams

Japan 10

SCCrM1	jis
SCCRM3	jis
SCM2	jis
SCM3	jis
SCM420	jis
SCM430	jis
SCM432	jis
SCM435	jis
SCM435H	jis
SCM440H	jis

South Korea 9

SCCrM1	ks
SCCrM3	ks
SCM420	ks
SCM420TK	ks
SCM430	ks
SCM432	ks
SCM435	ks
SCM435H	ks
SCM435TK	ks

China 7

30CrMo	gb
34CrMo4 This grade's own name	gb
35CrMo	gb
ML30CrMo	gb
ML30CrMoA	gb
ML35CrMo	gb
ZG35CrMo	gb

Italy 7

25CrMo4	uni
25CrMo4KB	uni
30CrMo4	uni
34CrMo4	uni
34CrMo4KB	uni
35CrMo4	uni
35CrMo4F	uni

Poland 7

25HM	pn
26HM	pn
30HM	pn
35HM	pn
35HMA	pn
L25HM	pn
L35HM	pn

Romania 7

26MoCr11	stas
33MoCr11	stas
34MoCr11	stas
34MoCr11AS	stas
34MoCr11q	stas
T30CrMo3	stas
T34MoCr09	stas

Bulgaria 6

25ChML	bds
25CrMo4	bds
30ChM	bds
30ChML	bds
34CrMo4	bds
35ChM	bds

Czechia 5

14141	csn
15130	csn
15131	csn
15141	csn
15141 PH	csn

Sweden 4

2225	ss
2233	ss
2234	ss
SIS 14 2234 This grade's own name	ss

Hungary 4

25CrMo4	msz
34CrMo4	msz
CMo 3	msz
CMo3Z	msz

International 3

34CrMo4	iso
34CrMo4E	iso
34CrMoS4	iso

Finland 3

25CrMo4	sfs
G-25CrMo4	sfs
G-34CrMo4	sfs

Europe 2

1.7220	din-en
34CrMo4 This grade's own name	din-en

Australia / New Zealand 2

4130	as-nzs
4130H	as-nzs

Austria 2

BOHLERV330	onorm
BOHLERV340	onorm

Serbia 1

Č.4731	srps

Belgium 1

34CrMo4	nbn

Note on use. The data is compiled to the best of our knowledge from publicly available standards and manufacturer documentation. It replaces neither material testing nor an inspection document to EN 10204. Please request a mill certificate to EN 10204 2.1, 3.1 or 3.2 together with your enquiry. The standard in its current valid edition always prevails.

DATASHEET ONLINE	GRADE SEARCH	MATERIAL NO.	ISSUED
View the material page	Search all grades	1.7220	Aug 20, 2026