

MATERIAL NUMBER 1.7223 · CLASS 1.7

40CrMoA

Material no. 1.7223

also listed as 41CrMo4

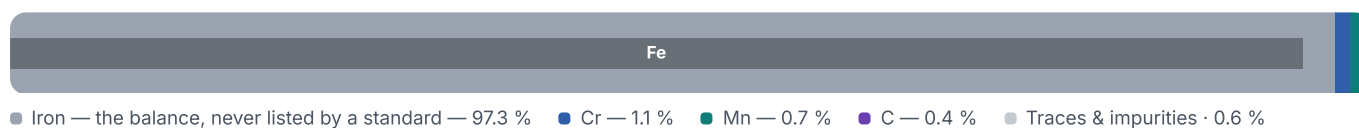
Chemical composition, mechanical and physical property values, and 30 standard designations from 13 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.72 g/cm ³	30 in 13 regions	15 on file

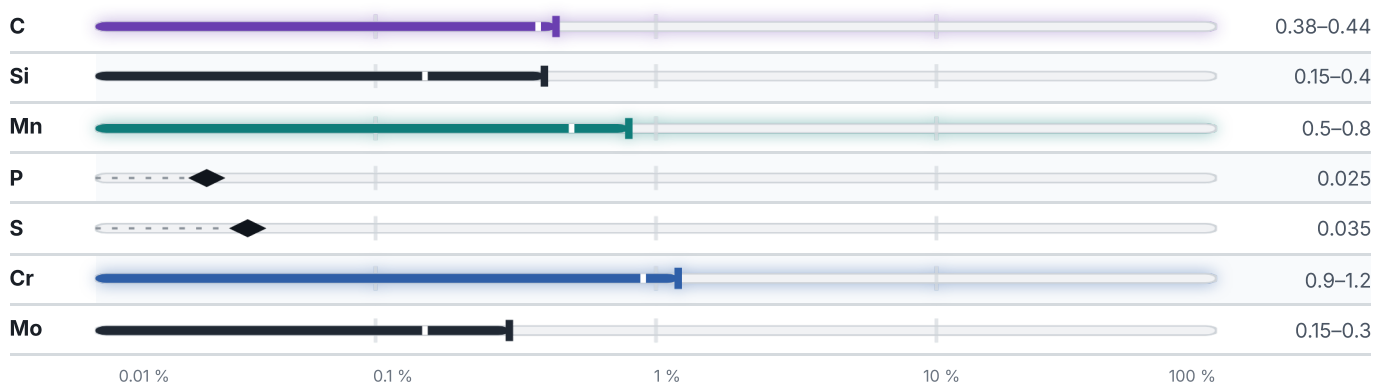
Chemical composition

Mass fraction in %

What this alloy is



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

16 values across 3 conditions

QUENCHING AND DRAWING	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
100 - 300	615	395	15	40	540
300 - 500	615	395	13	35	490
QUENCHING AND DRAWING	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Ø 25	880	735	10	50	880
CONDITION · DIMENSION					HB
(annealing) , GOST 4543-71					241

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	7.81	215	—	37	—
100	—	212	12.1	37	466
200	—	205	12.6	37	508
300	—	199	13	36	529
400	—	182	13.3	33	563
500	—	173	13.8	31	592
600	—	166	14.2	31	621
700	—	144	14.6	30	634
800	—	135	11.8	28	664
PROPERTY				VALUE	UNIT
Density				7.72	g/cm ³
Transformation point Ac1				760	°C
Transformation point Ac3				800	°C
Transformation point Ar3				725	°C
Transformation point Ar1				680	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	hard weldability.	
Flake sensitivity	predisposed	

PROPERTY	VALUE	UNIT
Temper brittleness	predisposed	

Designations across standards

30 designations · 4 documented as identical

United States		7	Europe		2
G41420	This grade's own name	uns	1.7223		din-en
K14047	This grade's own name	uns	41CrMo4	This grade's own name	din-en
4140		aisi-sae	Czechia		2
4140 4142		aisi-sae	15142		csn
4142	This grade's own name	aisi-sae	15240		csn
6135		aisi-sae	France		1
G41400		aisi-sae	42CD4TS		afnor
United Kingdom		5	Japan		1
19A		bs	SCM 440		jis
3111-5/1		bs	China		1
42CrMO4		bs	40CrMoA		gb
708M40		bs	Italy		1
EN19A		bs	41CrMo4		uni
Spain		4	Sweden		1
40CrMo4		une	2244		ss
42CrMo4		une	Bulgaria		1
F.1252		une	40ChFA		bds
F.8332		une	Belgium		1
Russia / CIS		3	41CrMo4		nbn
40ChFA		gost			
40KHFA		gost			
40XΦA		gost			

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.

Enquiry about 40CrMoA

Quotation, availability, mill certificate or a technical question — directly on the material page.

Start an enquiry

DATASHEET ONLINE	GRADE SEARCH	MATERIAL NO.	ISSUED
View the material page	Search all grades	1.7223	Aug 20, 2026