

MATERIAL NUMBER 1.7223 · CLASS 1.7

40ChFA

Material no. 1.7223

also listed as 41CrMo4

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

DENSITY

7.72 g/cm³

OTHER DESIGNATIONS

30 in 13 regions

PROPERTY VALUES

15 on file

Chemical composition

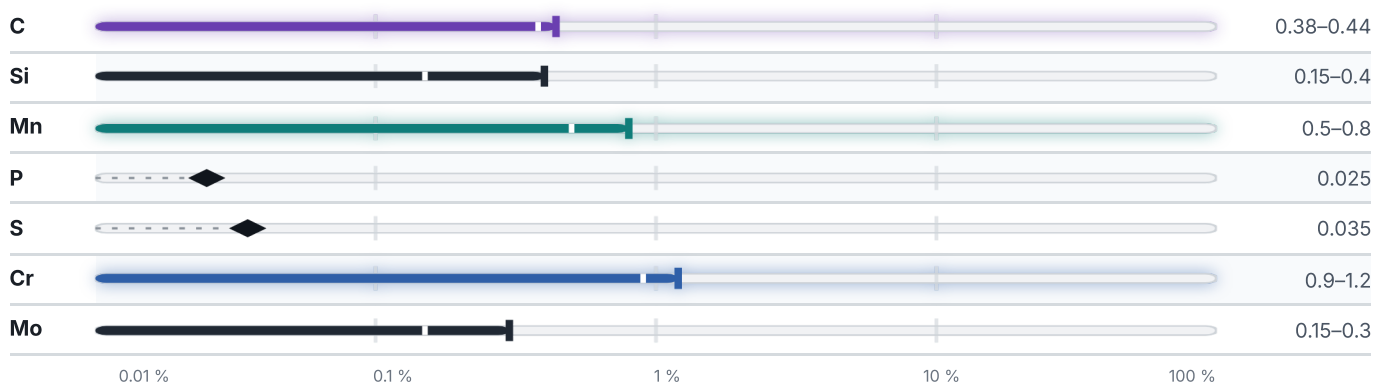
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 97.3 % ● Cr — 1.1 % ● Mn — 0.7 % ● C — 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

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 States7		Europe2	
G41420	This grade's own nameuns	1.7223	din-en
K14047	This grade's own nameuns	41CrMo4	This grade's own namedin-en
4140	aisi-sae	Czechia2	
4140 4142	aisi-sae	15142csn	
4142	This grade's own nameaisi-sae	15240csn	
6135	aisi-sae	France1	
G41400	aisi-sae	42CD4TSafnor	
United Kingdom5		Japan1	
19A	bs	SCM 440jis	
3111-5/1	bs	China1	
42CrMO4	bs	40CrMoAgb	
708M40	bs	Italy1	
EN19A	bs	41CrMo4uni	
Spain4		Sweden1	
40CrMo4	une	2244ss	
42CrMo4	une	Bulgaria1	
F.1252	une	40ChFAbds	
F.8332	une	Belgium1	
Russia / CIS3		41CrMo4nbn	
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 40ChFA

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