SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.2241 · CLASS 1.2

51CrMnV4

Material no. 1.2241

also listed as 50CrV4

Chemical composition, mechanical and physical property values, and 12 standard designations from 8 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.85 g/cm³	12 in 8 regions	8 on file

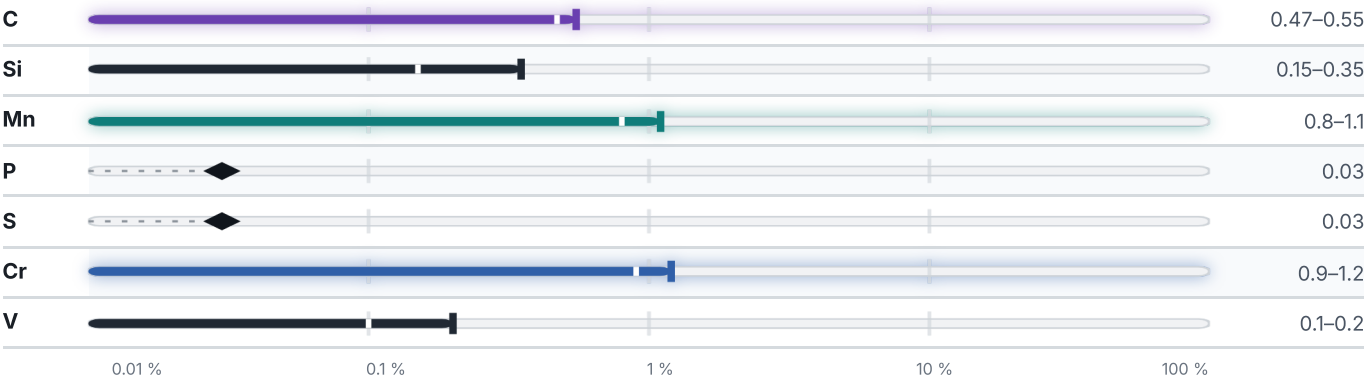
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 97 % · Cr — 1.1 % · Mn — 1 % · C — 0.5 % · Traces & impurities · 0.5 %

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, Mo.

Mechanical properties

12 values across 6 conditions

QUENCHED AND TEMPERED · ROUND PRODUCTS	A % · Lo = 5,65 √So
≤ 16	9
16 – 40	10
40 – 100	12
100 – 160	13
160 – 250	13

SOFT ANNEALED	RM N/mm²	A80 %
0.3 – 3	700	13

SOFT ANNEALED	HB	HV
Soft annealed	248	220

TREATED TO IMPROVE SHEARABILITY	HB
Treated to improve shearability	280

ANNEALED TO ACHIEVE SPHEROIDIZATION OF THE CARBIDES	HB
Annealed to achieve spheroidization of the carbides	230

QUENCHED AND TEMPERED	HV
Quenched and tempered	370–550

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm³

Designations across standards

12 designations · 5 documented as identical

Europe (3)

50CrV4 This grade's own name	din-en
51CrMnV4 This grade's own name	din-en
51CrV4 This grade's own name	din-en

United States (3)

G61500 This grade's own name	uns
6150 This grade's own name	aisi-sae
A331	astm

United Kingdom (1)

735A30	bs

France (1)

50CV4	afnor

United States / Aerospace (1)

6448	ams

Japan	1
SUP10	jis

China	1
50CrVA	gb

Russia / CIS	1
50ХФА	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 51CrMnV4

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	1.2241	Aug 20, 2026