SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.1201 · CLASS 1.1

C45K1

Material no. 1.1201

also listed as C45R

Chemical composition, mechanical and physical property values, and 22 standard designations from 10 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.7 g/cm³	22 in 10 regions	9 on file

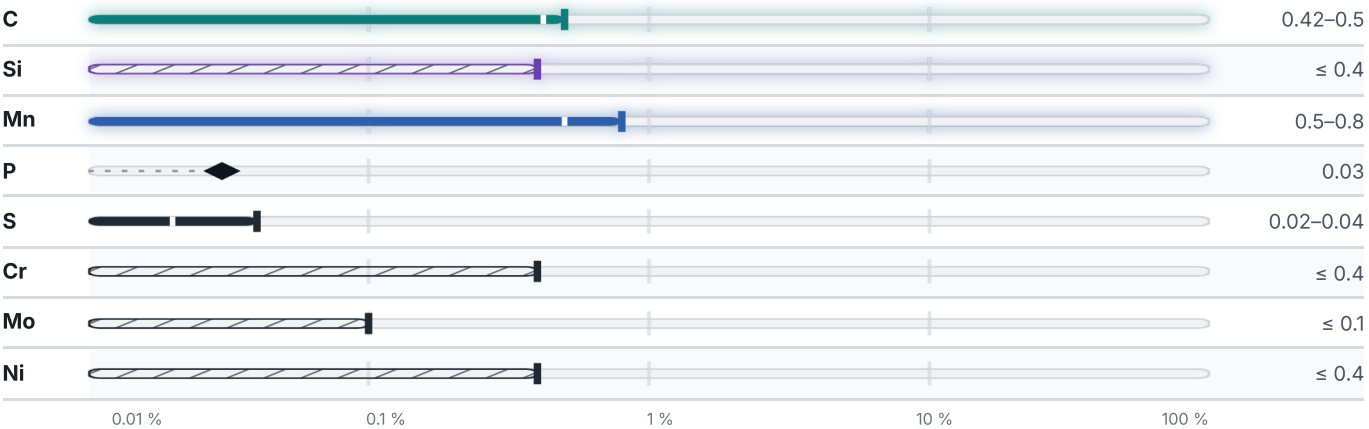
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 97.5 % · Mn — 0.7 % · C — 0.5 % · Si — 0.4 % · Traces & impurities · 1 %

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

computed from composition · °C

PREDICTED AE3	PREDICTED AE1	PREDICTED ACM	PREDICTED BS
764 °C	724 °C	637 °C	556 °C

Mechanical properties

19 values across 5 conditions

COLD DRAWN / HARD	RM N/mm²	A %
5 – 10	750–1050	5
10 – 16	710–1030	6
16 – 40	650–1000	7
40 – 63	630–900	8
63 – 100	580–850	8

NORMALIZED	RM N/mm²	A %
≤ 16	620	14
16 – 100	580	16
100 – 250	560	16

TREATED TO IMPROVE SHEARABILITY	HB
Treated to improve shearability	255

SOFT ANNEALED	HB
Soft annealed	207

AS ROLLED AND TURNED	HB
As rolled and turned	172–242

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.7	g/cm³

Designations across standards

22 designations · 6 documented as identical

United States 5

G10450 This grade's own name	uns
G10490 This grade's own name	uns
1045 This grade's own name	aisi-sae
1049 This grade's own name	aisi-sae
A830	astm

Spain 4

C45K1	une
F.1145-C45k	une
F1145	une
F1145(1)	une

France 3

C45R	afnor
XC42H1	afnor
XC48H1u	afnor

Europe 2

C45R This grade's own name	din-en
Cm 45 This grade's own name	din-en

United Kingdom 2

080M46	bs
080M50 C50 C50E C50R	bs

International 2

C45M2	iso
C50 C50E4 C50M2	iso

Japan 1

S50C	jis

China 1

50	gb

Italy 1

C45	uni

Sweden 1

1660	ss

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 C45K1

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	1.1201	Aug 20, 2026