

MATERIAL NUMBER 1.1241 · CLASS 1.1

C50R

Material no. 1.1241

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

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 12 in 8 regions	PROPERTY VALUES 9 on file
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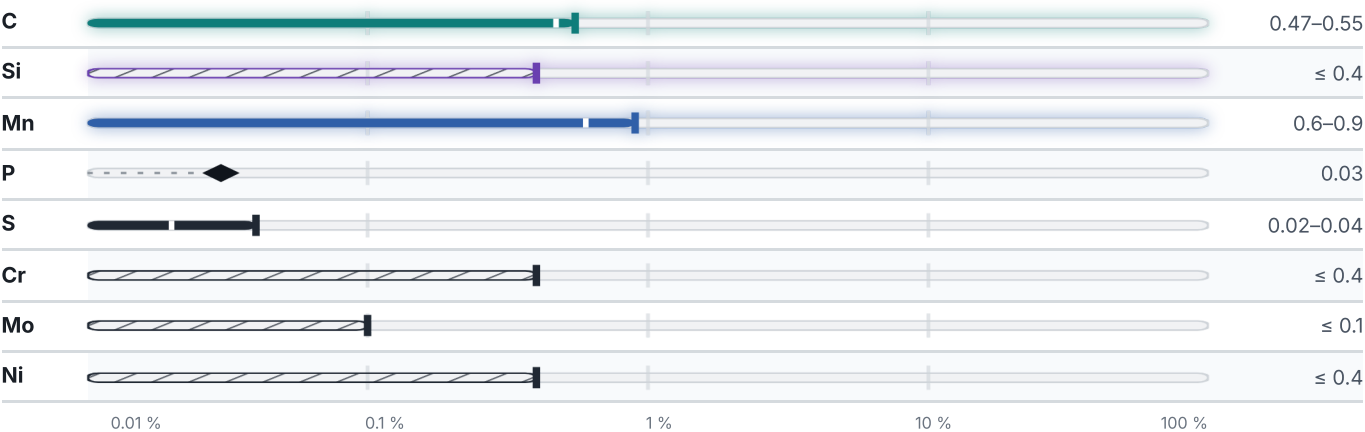
Chemical composition

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

computed from composition · °C

PREDICTED AE3 753 °C	PREDICTED AE1 723 °C	PREDICTED ACM 663 °C	PREDICTED BS 550 °C
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Mechanical properties

17 values across 5 conditions

COLD DRAWN / HARD	RM N/mm ²	A %
5 – 10	770–1100	5
10 – 16	730–1080	6
16 – 40	690–1050	7
40 – 63	650–1030	8
NORMALIZED	RM N/mm ²	A %
≤ 16	650	13
16 – 100	610	14
100 – 250	590	14
TREATED TO IMPROVE SHEARABILITY	HB	
Treated to improve shearability	255	
SOFT ANNEALED	HB	
Soft annealed	217	
AS ROLLED AND TURNED	HB	
As rolled and turned	181–269	

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

12 designations · 4 documented as identical

Europe	2	Italy	2
C50R This grade's own name	din-en	C50	uni
Cm 50 This grade's own name	din-en	C50E	uni
United States	2	United Kingdom	1
G10500 This grade's own name	uns	C50 C50E C50R	bs
1050 This grade's own name	aisi-sae	Japan	1
International	2	S50C	jis
C50 C50E4 C50M2	iso	Russia / CIS	1
C50M2	iso	50	gost

Czechia	1
12051	csn

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 C50R

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	1.1241	Aug 20, 2026