

MATERIAL NUMBER 1.1206 · CLASS 1.1

C50E

Material no. 1.1206

Chemical composition, mechanical and physical property values, and 33 standard designations from 17 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 33 in 17 regions	PROPERTY VALUES 9 on file
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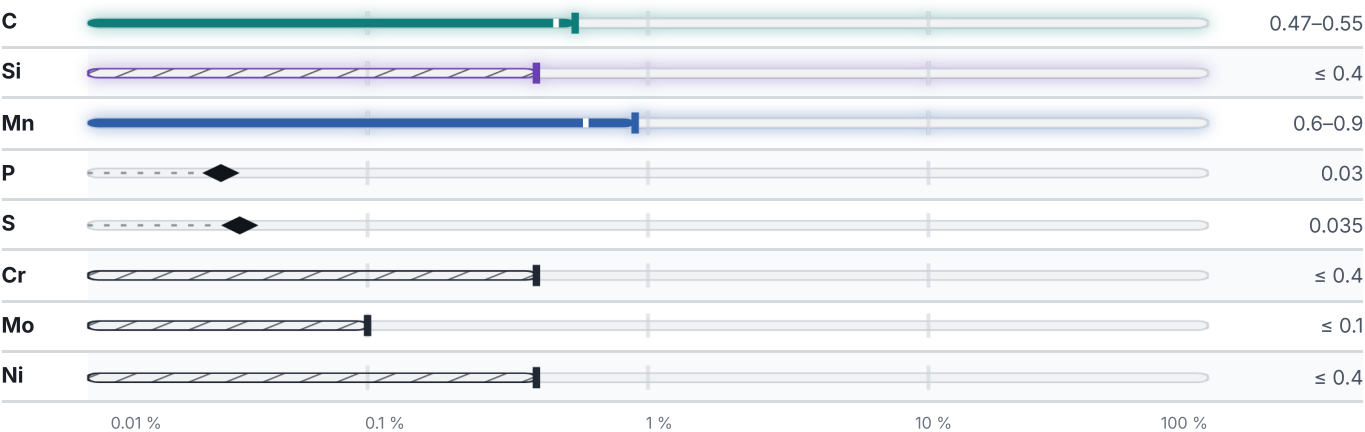
Chemical composition

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

24 values across 10 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
SOFT ANNEALED	RM N/mm ²	A80 %
0.3 – 3	580	17
COLD ROLLED	RM N/mm ²	
0.3 – 3		1050
QUENCHED AND TEMPERED	RM N/mm ²	
0.3 – 3		1050–1650
TREATED TO IMPROVE SHEARABILITY		HB
Treated to improve shearability		255
SOFT ANNEALED	HB	HV
Soft annealed	217	180
AS ROLLED AND TURNED		HB
As rolled and turned		181–269
COLD ROLLED		HV
Cold rolled		295
QUENCHED AND TEMPERED		HV
Quenched and tempered		325–505

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

33 designations · 6 documented as identical

United States	8	Spain	1
G10490 This grade's own name	uns	C45k	une
G10500 This grade's own name	uns	Japan	1
G10550	uns	S50C	jis
G10600	uns	Russia / CIS	1
1049 This grade's own name	aisi-sae	50	gost
1050 This grade's own name	aisi-sae	Italy	1
1055	aisi-sae	C50	uni
1060	aisi-sae	Sweden	1
United Kingdom	4	1674	ss
080M50	bs	Czechia	1
080M50 C50 C50E C50R	bs	12051	csn
C50 C50E C50R	bs	Brazil	1
CS50	bs	1050	abnt
France	4	Latin America	1
C50E	afnor	1050	copant
XC 50 H1	afnor	Slovakia	1
XC48H1	afnor	12 051	stn
XC50	afnor	Hungary	1
Europe	2	C 50	msz
C50E This grade's own name	din-en	Romania	1
Ck 50 This grade's own name	din-en	OLC50X	stas
International	2		
C50 C50E4 C50M2	iso		
C50E4	iso		
Poland	2		
55	pn		
60	pn		

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 C50E

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

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ISSUED

Aug 20, 2026