

MATERIAL NUMBER 1.0507 · CLASS 1.0

Gr 50C

Material no. 1.0507

also listed as S355 J 0

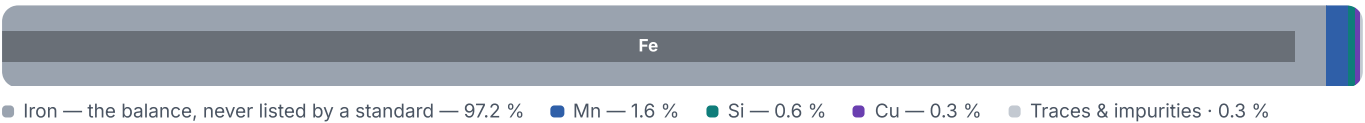
Chemical composition, mechanical and physical property values, and 12 standard designations from 9 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 12 in 9 regions	PROPERTY VALUES 15 on file
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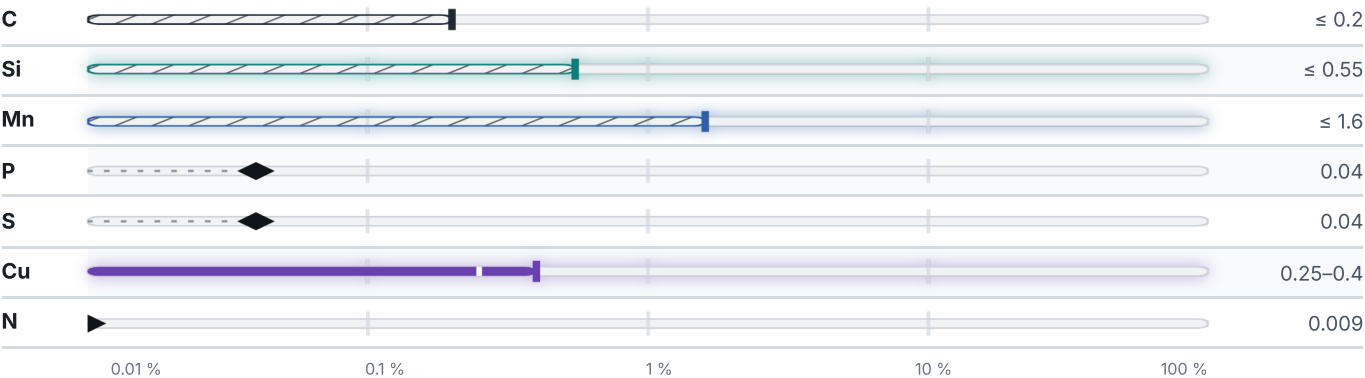
Chemical composition

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

Not enough recorded composition to predict a transformation temperature for this grade — missing: Ni, Cr, Mo.

Mechanical properties

31 values across 3 conditions

FLAT AND LONG PRODUCTS	REH N/mm ²	RM N/mm ²	
≤ 3	–	510–680	
3 – 100	–	470–630	
≤ 16	355	–	
16 – 40	345	–	
40 – 63	335	–	
63 – 80	325	–	
80 – 100	315	–	
100 – 150	295	450–600	
150 – 250	–	450–600	
150 – 200	285	–	
200 – 250	275	–	
CONDITION · DIMENSION	A80 % · Lo = 80 mm	A % · Lo = 5,65 √So	
≤ 1	14	–	
1 – 1.5	15	–	
1.5 – 2	16	–	
2 – 2.5	17	–	
2.5 – 3	18	–	
3 – 40	–	22	
40 – 63	–	21	
63 – 100	–	20	
100 – 150	–	18	
150 – 250	–	17	
AS-DELIVERED STATE	RM N/mm ²	RE N/mm ²	A5 %
to 20	490–630	285	20
20 - 40	490–630	275	19
40 - 100	490–630	265	17

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa
20	7.85	198
100	–	196
200	–	186
300	–	175
400	–	167

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³
Transformation point Ac1	730	°C
Transformation point Ac3	825	°C
Transformation point Ar3	815	°C
Transformation point Ar1	690	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	
Flake sensitivity	not predisposed	
Temper brittleness	not predisposed	

Designations across standards

12 designations · 2 documented as identical

Europe	2	Japan	1
S355 J 0 This grade's own name	din-en	STKM16A	jis
S355J0Cu This grade's own name	din-en		
United Kingdom	2	Italy	1
CDS7	bs	Fe540	uni
Gr 50C	bs	Czechia	1
		11550	csn
Russia / CIS	2	Poland	1
VSt5ps	gost	R55	pn
BCr5nc	gost		
United States	1	South Africa	1
A570-50	aisi-sae	350 WC	sans

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 Gr 50C

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

[Start an enquiry](#)

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ISSUED
Aug 20, 2026