

MATERIAL NUMBER 1.8912 · CLASS 1.8

50F

Material no. 1.8912

also listed as S420NL

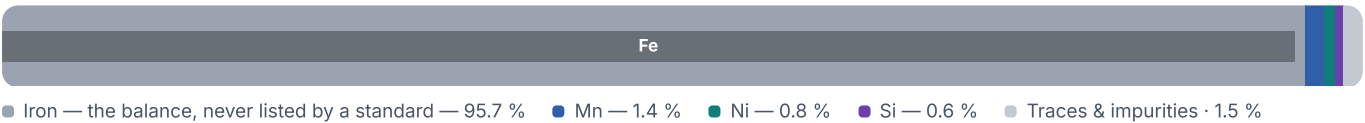
Chemical composition, mechanical and physical property values, and 14 standard designations from 5 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 14 in 5 regions	PROPERTY VALUES 15 on file
--	--	--------------------------------------

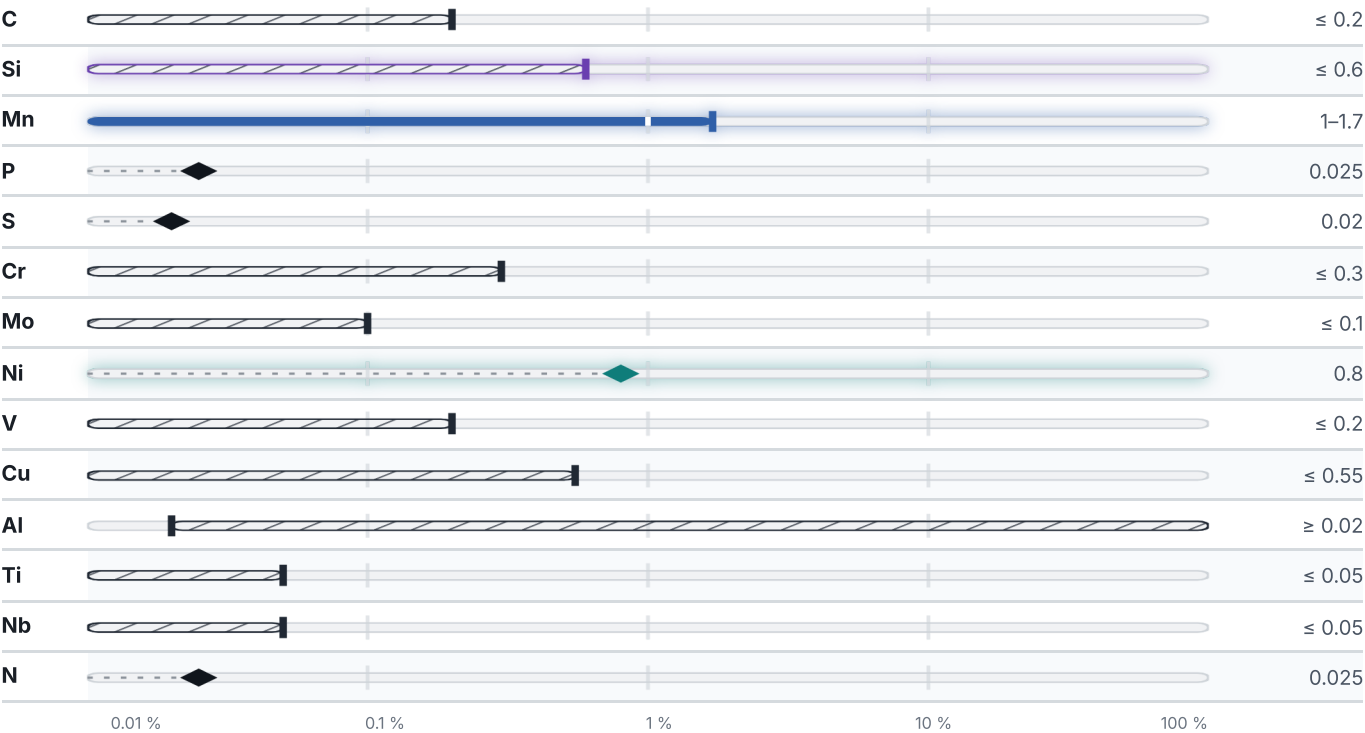
Chemical composition

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 807 °C	PREDICTED AE1 708 °C	PREDICTED ACM 438 °C	PREDICTED BS 540 °C
-------------------------	-------------------------	-------------------------	------------------------

Mechanical properties

17 values across 1 conditions

CONDITION · DIMENSION	REH N/mm²	RM N/mm²	A %
≤ 16	420	–	19
16 – 40	400	–	19
40 – 63	390	–	19
63 – 80	370	–	18
80 – 100	360	–	–
80 – 200	–	–	18
≤ 100	–	520–680	–
100 – 200	–	500–650	–
100 – 150	340	–	–
150 – 200	330	–	–
200 – 250	320	500–650	18

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm³

Designations across standards

14 designations · 2 documented as identical

United States7		Europe4	
K02002	uns	A738Gr.C	din-en
K12202	uns	FeE420KTN	din-en
K12437	uns	S420NL	This grade's own namedin-en
A572Gr.60	aisi-sae	TStE 420	This grade's own namedin-en
A633E	aisi-sae		
A633Gr.E	aisi-sae	United Kingdom1	
A738Gr.C	aisi-sae	50F	bs
		France1	
		E420FP	afnor

China	1
Q420E	gb

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 50F

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	1.8912	Aug 20, 2026