

MATERIAL NUMBER 1.8959 · CLASS 1.8

A242Gr.1

Material no. 1.8959

also listed as S355J0W

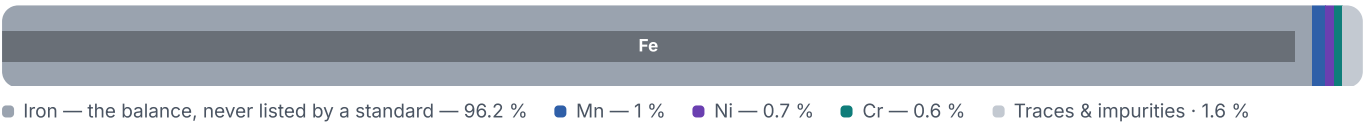
Chemical composition, mechanical and physical property values, and 23 standard designations from 10 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 23 in 10 regions	PROPERTY VALUES 12 on file
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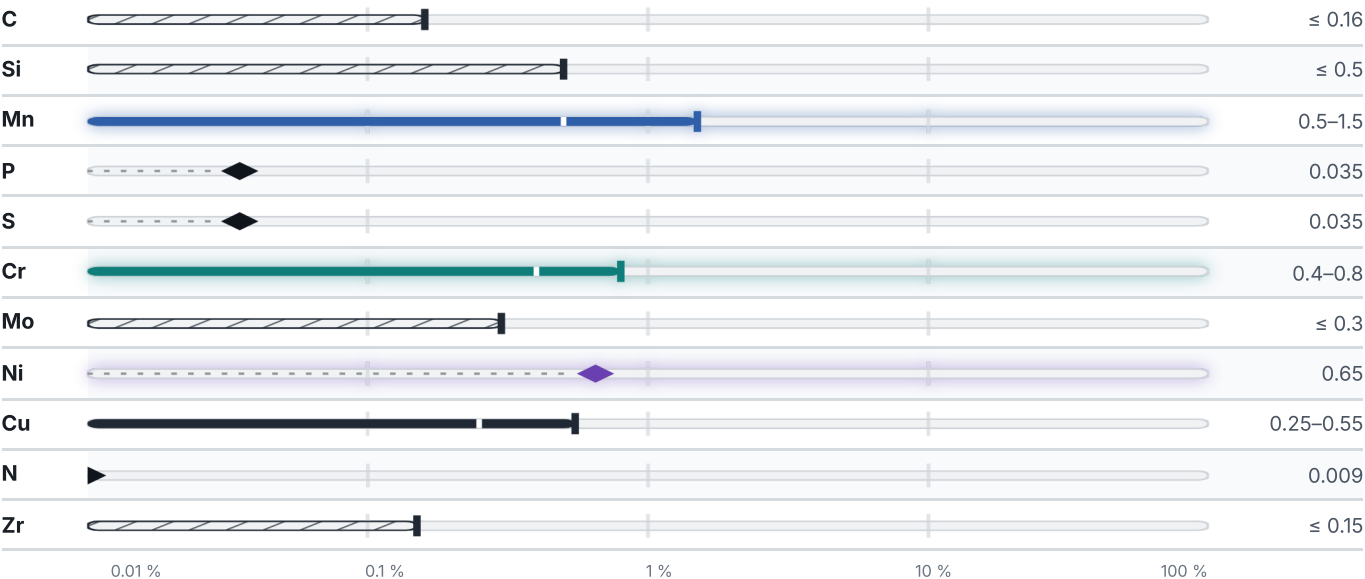
Chemical composition

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 814 °C	PREDICTED AE1 722 °C	PREDICTED ACM 423 °C	PREDICTED BS 526 °C
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Mechanical properties

16 values across 1 conditions

CONDITION · DIMENSION	REH N/mm ²	RM N/mm ²	A80 %	A %
1.5 – 2	–	–	16	–
2 – 2.5	–	–	17	–
2.5 – 3	–	–	18	–
≤ 3	–	510–680	–	–
3 – 100	–	470–630	–	–
3 – 40	–	–	–	22
≤ 16	355	–	–	–
16 – 40	345	–	–	–
40 – 63	335	–	–	21
63 – 80	325	–	–	–
63 – 100	–	–	–	20
80 – 100	315	–	–	–
100 – 150	295	450–600	–	18

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

23 designations · 4 documented as identical

United States	7	Brazil	6
K02601	uns	NBR 5008 CGR400	abnt
K11430 This grade's own name	uns	NBR 5008 CGR500	abnt
K11538 This grade's own name	uns	NBR 5920 CFR500	abnt
K12043 This grade's own name	uns	NBR 5921 CFR400	abnt
A242Gr.1	aisi-sae	NBR 5921 CFR500	abnt
A588	aisi-sae	NBR 7007 AR350 COR	abnt
A709-50W	aisi-sae		

Europe	3	Japan	1
A709-50W	din-en	SMA50AW	jis
Fe510C2K1	din-en		
S355J0W	din-en	Russia / CIS	1
		17G1S	gost
United Kingdom	1	Italy	1
WR50B	bs	Fe510C2K1	uni
France	1	Canada	1
E36WB3	afnor	350AAT	csa
International	1		
Fe355W	iso		

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 A242Gr.1

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	1.8959	Aug 20, 2026