SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.8959 · CLASS 1.8

NBR 7007 AR350 COR

Material no. 1.8959

also listed as S355J0W

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

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.85 g/cm³	23 in 10 regions	12 on file

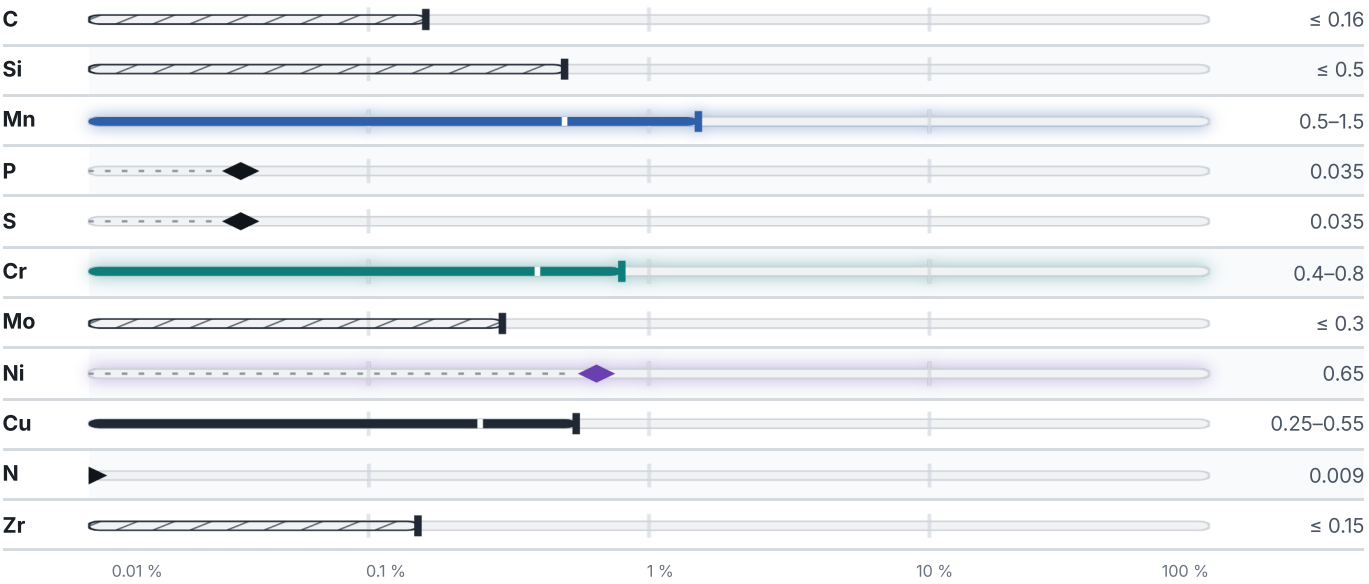
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 96.2 % · Mn — 1 % · Ni — 0.7 % · Cr — 0.6 % · Traces & impurities · 1.6 %

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

Mechanical properties

16 values across 1 conditions

CONDITION · DIMENSION	REH N/mm²	RM N/mm²	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/cm³

Designations across standards

23 designations · 4 documented as identical

United States	7
K02601	uns
K11430 This grade's own name	uns
K11538 This grade's own name	uns
K12043 This grade's own name	uns
A242Gr.1	aisi-sae
A588	aisi-sae
A709-50W	aisi-sae

Brazil	6
NBR 5008 CGR400	abnt
NBR 5008 CGR500	abnt
NBR 5920 CFR500	abnt
NBR 5921 CFR400	abnt
NBR 5921 CFR500	abnt
NBR 7007 AR350 COR	abnt

Europe 3

A709-50W	din-en
Fe510C2KI	din-en
S355J0W This grade's own name	din-en

United Kingdom 1

WR50B	bs

France 1

E36WB3	afnor

International 1

Fe355W	iso

Japan 1

SMA50AW	jis

Russia / CIS 1

17G1S	gost

Italy 1

Fe510C2K1	uni

Canada 1

350AAT	csa

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.

DATASHEET ONLINE	GRADE SEARCH	MATERIAL NO.	ISSUED
View the material page	Search all grades	1.8959	Aug 20, 2026