SteelEquivalents.com

Material datasheet
As of Sep 8, 2026

MATERIAL NUMBER 1.8159 · CLASS 1.8

2230

Material no. 1.8159

also listed as 50CrV4

Chemical composition, mechanical and physical property values, and 73 standard designations from 26 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.7 g/cm³	73 in 26 regions	15 on file

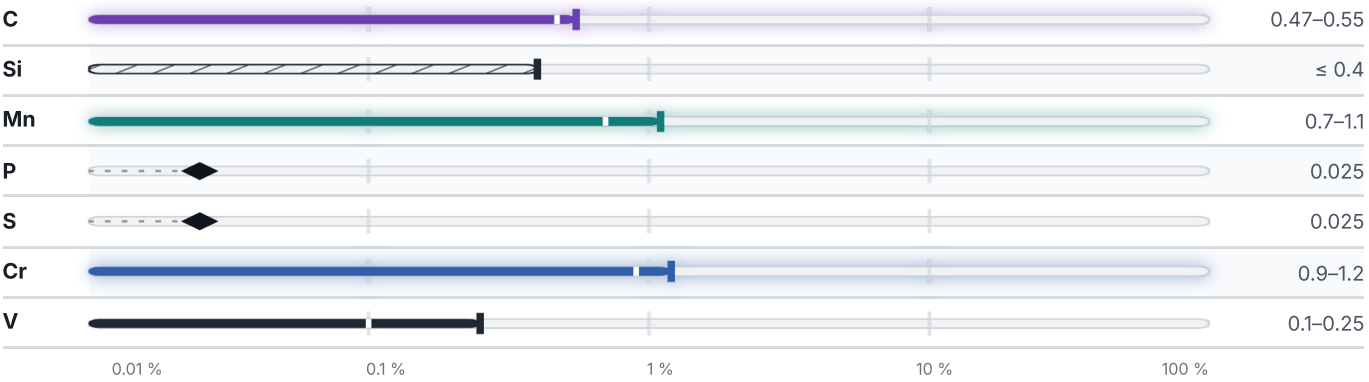
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 96.9 % · Cr — 1.1 % · Mn — 0.9 % · C — 0.5 % · Traces & impurities · 0.6 %

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

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

Mechanical properties

13 values across 4 conditions

CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	Z %
Bar	1300	1100	10	45
Rolled stock, GOST 14959-79	1270	1080	8	35

CONDITION · DIMENSION	HB
(without heat treatment) , Rolled stock GOST 14959-79	302
(heat treatment) , Rolled stock GOST 14959-79	269

CONDITION · DIMENSION	RM N/mm²	A5 %
0.1 - 4	880	8

CONDITION · DIMENSION	RM N/mm²
0.1 - 4	780–1180

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10^-6/K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	7.8	218	–	40	–	320
100	7.78	215	11.7	39	490	–
200	7.75	210	12.2	38	505	–
300	7.72	200	12.9	37	510	–
400	7.68	188	13.5	36	530	–
500	7.65	178	14	33	560	–
600	7.61	160	14.4	31	580	–
700	–	142	14.6	29	620	–
800	–	132	13.1	28	700	–

PROPERTY	VALUE	UNIT
Density	7.7	g/cm³
Transformation point Ac1	752	°C
Transformation point Ac3	788	°C
Transformation point Ar3	746	°C
Transformation point Ar1	688	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	is not used.	
Flake sensitivity	not predisposed	
Temper brittleness	weakly predisposed	

Designations across standards

73 designations · 8 documented as identical

United States 9

G61500 This grade's own name	uns
H61500 This grade's own name	uns
6145 This grade's own name	aisi-sae
6150 This grade's own name	aisi-sae
6150H This grade's own name	aisi-sae
G41500	aisi-sae
G61500	aisi-sae
H61500	aisi-sae
A331	astm

United Kingdom 7

51CrV4	bs
735A30	bs
735A50	bs
735A51	bs
735A54	bs
735h51	bs
EN 47	bs

France 7

50CrV4	afnor
50CrV4RR	afnor
50CV4	afnor
50CrV4	afnor
51CrV4	afnor
51CrV4	afnor
55CrV4	afnor

Russia / CIS 7

50ChFA	gost
50HFA	gost
50KHFA	gost
50KHGFA	gost
50KHGFA	gost
50ХФА	gost
50ХФА	gost

Spain 4

51CrV4	une
CrV4	une
F.1430-51	une
F1430	une

Italy 4

48Si7	uni
50CrV4	uni
51CrMnV4KU	uni
51CrV4	uni

Hungary 4

51CrV4	msz
CrV 3	msz
CrV3Z	msz
SZ2	msz

Europe 3

1.8159	din-en
50CrV4 This grade's own name	din-en
51CrV4 This grade's own name	din-en

Japan 3

SCM445H	jis
SUP10	jis
SUP10-CSP	jis

Romania 3

51VCr11A	stas
51VMnCr11	stas
51VMnCr11AT	stas

Bulgaria 3

50ChFA	bds
50ChGFA	bds
51CrV4	bds

China 2

50CrVA	gb
50CrVA	gb

Sweden 2

2230	ss
SIS 14 2230 This grade's own name	ss

Poland 2

50HF	pn
50HS	pn

Australia / New Zealand 2

6150	as-nzs
6150H	as-nzs

International 1

51CrV4	iso

United States / Aerospace 1

6448	ams

Czechia 1

15260	csn

Slovakia 1

15 260	stn

Latin America 1

6150	copant

Brazil 1

6151	abnt

Serbia 1

Č.4830	srps

Croatia 1

Č.4830	hrn

Türkiye 1

Ç 6150	mke

Belgium 1

50CrV4	nbn

South Korea 1

SPS6	ks

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	1.8159	Sep 8, 2026