SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.0535 · CLASS 1.0

58

Material no. 1.0535

also listed as C55

Chemical composition, mechanical and physical property values, and 101 standard designations from 21 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.85 g/cm³	101 in 21 regions	16 on file

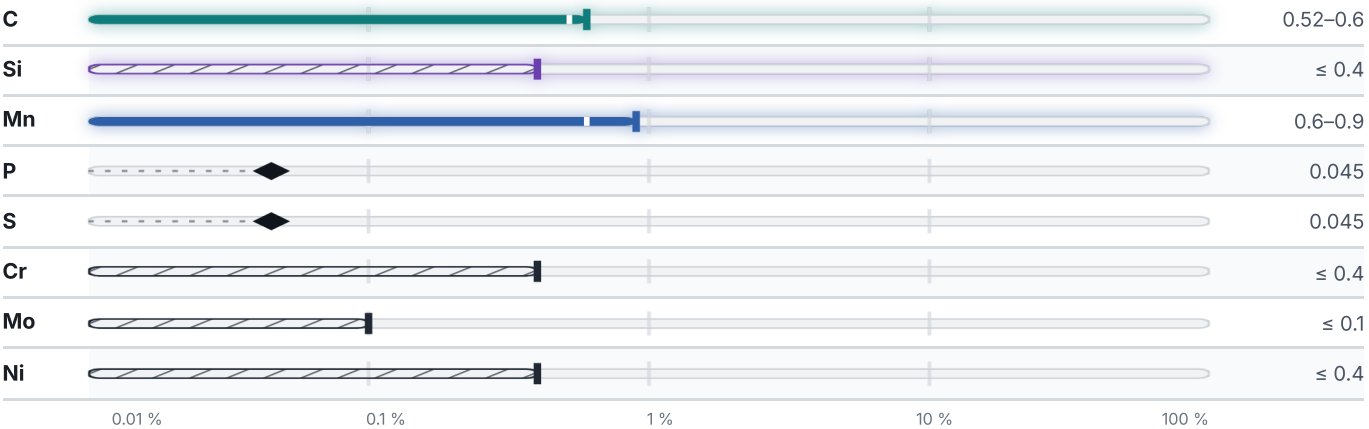
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 97.3 % · Mn — 0.8 % · C — 0.6 % · Si — 0.4 % · Traces & impurities · 1 %

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
744 °C	723 °C	687 °C	547 °C

Mechanical properties

33 values across 8 conditions

NORMALIZED	RM N/mm²	A %
≤ 16	680	11
16 – 100	640	12
100 – 250	620	12
250 – 500	600	–
500 – 1000	590	–

COLD DRAWN / HARD	RM N/mm²	A %
5 – 10	770–1100	5
10 – 16	730–1080	6
16 – 40	690–1050	7
40 – 63	650–1030	8

CONDITION · DIMENSION	RM N/mm²	A5 %	Z %	HB
Rolled stock cold-worked , GOST 1050-88	660	6	30	–
Rolled stock annealed , GOST 1050-88	560	12	40	–
Bar GOST 10702-78	–	–	–	217
Rolled stock GOST 1050-88	–	–	–	241

NORMALIZING	RM N/mm²	RE N/mm²	A5 %	Z %
to 80	630	375	14	40

TREATED TO IMPROVE SHEARABILITY	HB
Treated to improve shearability	255

ANNEALING	RM N/mm²	A5 %
6 - 60	580	17

SOFT ANNEALED	HB
Soft annealed	229

AS ROLLED AND TURNED	HB
As rolled and turned	181–269

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	7.81	216	–	48	–	272
100	–	213	11.2	48	487	–
200	–	207	12	47	500	–
300	–	200	12.8	44	517	–
400	–	180	13.4	41	533	–
500	–	171	13.9	38	559	–
600	–	154	14.2	35	584	–
700	–	136	14.5	31	–	–
800	–	123	13.4	27	–	–

PROPERTY	VALUE	UNIT
Density	7.85	g/cm³
Transformation point Ac1	725	°C
Transformation point Ac3	760	°C
Transformation point Ar3	750	°C
Transformation point Ar1	690	°C

Technological properties

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

Heat treatment

1 regimes

STEP	TEMPERATURE	MEDIUM
source joins the operations with + / procedural order		
Normalizing	Temperature not stated	—
Normalizing	Temperature not stated	—
Tempering	Temperature not stated	—

Designations across standards

101 designations · 3 documented as identical

France 18

1C55	afnor
2C50	afnor
2C55	afnor
AF70	afnor
AF70C55	afnor
C45E	afnor
C50E	afnor
C50RR	afnor
C54	afnor
C55	afnor
C55E	afnor
XC48H1	afnor
XC48H1TS	afnor
XC48TS	afnor
XC50	afnor
XC54	afnor
XC55	afnor
XC55H1	afnor

United States 9

G10550 This grade's own name	uns
G10600	uns
1049	aisi-sae
1050	aisi-sae
1055 This grade's own name	aisi-sae
1060	aisi-sae
G10490	aisi-sae
G10500	aisi-sae
G10550	aisi-sae

United Kingdom 9

060A52	bs
060A57	bs
070M55	bs
080A52	bs
080M50	bs
C50E	bs
C55	bs
C55E	bs
En9	bs

Italy 8

1C55	uni
C50	uni
C50E	uni
C50R	uni
C53	uni
C55	uni
C55E	uni
C55R	uni

Russia / CIS 6

50	gost
55	gost
55KH	gost
55SL	gost
55пп	gost
58	gost

Spain 5

C50E	une
C55	une
C55E	une
C55k	une
F.1150	une

Japan 5

S40C	jis
S50C	jis
S53C	jis
S55C	jis
S55C-CSP	jis

China 5

50	gb
55	gb
SM50	gb
SM55	gb
ZG340-640	gb

Poland 5

55	pn
55A	pn
55rs	pn
60	pn
D50	pn

Romania 5

OLC50AT	stas
OLC50X	stas
OLC55	stas
OLC55A	stas
OLC55X	stas

Bulgaria 5

50	bds
55	bds
C50E	bds
C55	bds
C55E	bds

Europe 3

1.0535	din-en
C55 This grade's own name	din-en
CF53	din-en

International 3

C50	iso
C55	iso
C55E4	iso

Belgium 3

C53	nbn
C55-1	nbn
C55-2	nbn

Sweden 2

1655	ss
1674	ss

Czechia 2

12051	csn
12060	csn

Hungary 2

C50E	msz
C55E	msz

Australia / New Zealand 2

1050	as-nzs
1055	as-nzs

South Korea 2

SM50C	ks
SM55C	ks

Slovakia 1

12 060	stn

Serbia 1

Č.1630	srps

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	1.0535	Aug 20, 2026