

MATERIAL NUMBER 1.0528 · CLASS 1.0

M1031

Material no. 1.0528

also listed as C30

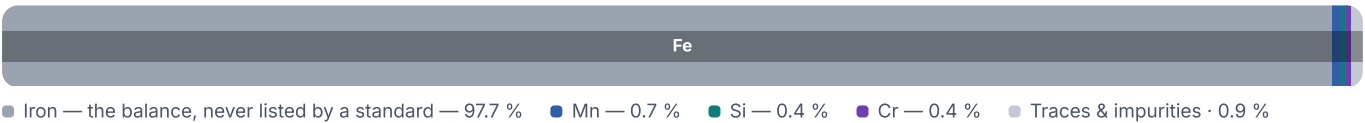
Chemical composition, mechanical and physical property values, and 54 standard designations from 14 regions.

DENSITY 7.85 g/cm³	OTHER DESIGNATIONS 54 in 14 regions	PROPERTY VALUES 16 on file
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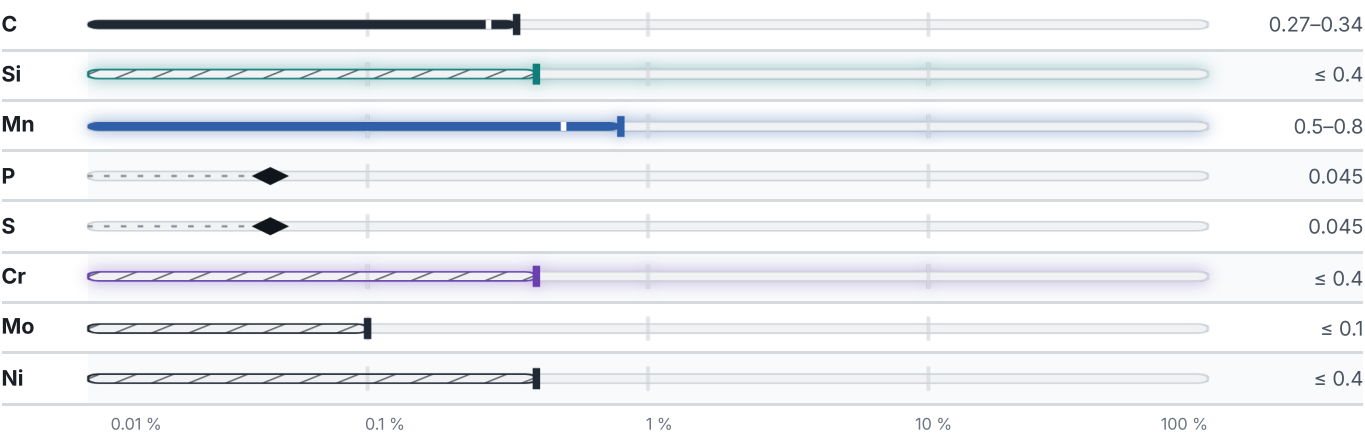
Chemical composition

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 792 °C	PREDICTED AE1 724 °C	PREDICTED ACM 539 °C	PREDICTED BS 566 °C
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Mechanical properties

21 values across 4 conditions

CONDITION · DIMENSION	RM N/mm ²	A5 %	Z %	HB
Rolled stock cold-worked , GOST 1050-88	560	7	35	–
Rolled stock annealed , GOST 1050-88	440	17	45	–
Band annealed , GOST 2284-79	390–640	16	–	–
Band cold-worked , GOST 2284-79	640–930	–	–	–
Sheet GOST 4041-71	–	–	–	149
Rolled stock GOST 1050-88	–	–	–	229
NORMALIZED	RM N/mm ²	A5 %	Z %	HB
≤ 100	480	–	–	21
100 – 250	460	–	–	21
CONDITION · DIMENSION	RM N/mm ²	A5 %	Z %	HB
4 - 14	430–590	–	–	24
NORMALIZING	RM N/mm ²	RE N/mm ²	A5 %	Z %
to 80	490	295	21	50

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ^{−6} /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	7.85	200	–	52	–
100	–	196	12.1	51	470
200	–	191	12.9	49	483
300	–	185	13.6	46	546
400	–	–	14.2	43	563
500	–	–	14.7	39	764
600	–	164	15	36	–
700	–	–	15.2	32	–
PROPERTY	VALUE	UNIT			
Density	7.85	g/cm ³			
Transformation point Ac1	730	°C			

PROPERTY	VALUE	UNIT
Transformation point Ac3	820	°C
Transformation point Ar3	796	°C
Transformation point Ar1	680	°C

Technological properties

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

Heat treatment

1 regimes

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—

Designations across standards

54 designations · 3 documented as identical

Russia / CIS		15	United Kingdom		5
30	gost		060A30		bs
30GL	gost		080A32		bs
30KHGFRL	gost		080M32		bs
30KHGS	gost		C30 C30E C30R		bs
30KHGSFL	gost		En5		bs
30KhGSNMA	gost		Japan		5
30KHGT	gost		S28C		jis
30KhL	gost		S30C		jis
30KhML	gost		S33C		jis
30KHRA	gost		SWRCH30K		jis
CHVG30	gost		SWRCH33K		jis
CHYU30	gost		France		4
PKh30	gost		AF50C30		afnor
AS30KHM	gost		C30E		afnor
ASTS30KHM	gost		FR32		afnor
United States		5	XC32		afnor
G10300	This grade's own name	uns	International		4
1030	This grade's own name	aisi-sae	C30		iso
G10300		aisi-sae	C30 C30E4 C30M2		iso
M1031		aisi-sae	C30E		iso
SAE1030		aisi-sae	C30E4		iso

Europe	3	Poland	3
1.0528	din-en	30	pn
C30	din-en	30A	pn
Ck30	din-en	30rs	pn
China	3	Czechia	1
30	gb	12031	csn
ML25Mn	gb	Slovakia	1
ML30	gb	12 031	stn
Italy	3	Romania	1
C30	uni	OLC30	stas
C30E	uni	Bulgaria	1
C30R	uni	30	bds

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 M1031

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	1.0528	Aug 20, 2026