

MATERIAL NUMBER 1.0416 · CLASS 1.0

422 633

Material no. 1.0416

also listed as C18D

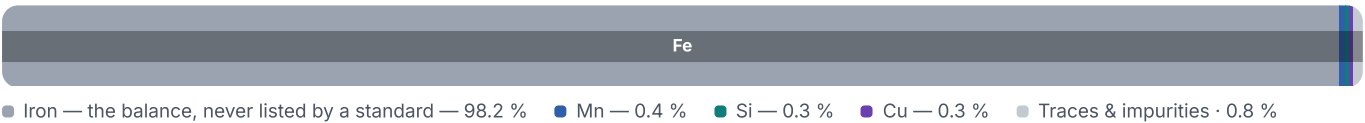
Chemical composition, mechanical and physical property values, and 34 standard designations from 17 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 34 in 17 regions	PROPERTY VALUES 18 on file
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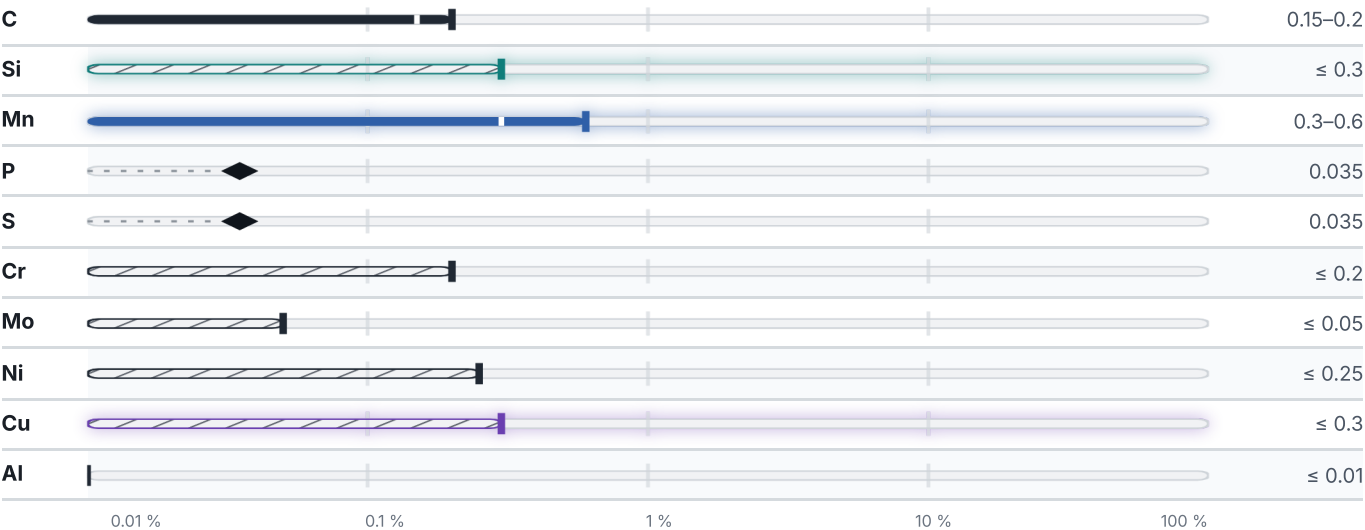
Chemical composition

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 819 °C	PREDICTED AE1 722 °C	PREDICTED ACM 423 °C	PREDICTED BS 592 °C
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Mechanical properties

5 values across 1 conditions

NORMALIZING 910 - 930°C, DRAWING 670 - 690°C	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²
to 100	392	196	24	35	491

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm³	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	7.82	–	–	–
100	–	11.9	78	470
200	–	12.5	67	479
400	–	13.6	48	517
500	–	14.2	41	–
600	–	–	–	571

PROPERTY	VALUE	UNIT
Density	7.85	g/cm³
Transformation point Ac1	735	°C
Transformation point Ac3	863	°C
Transformation point Ar3	840	°C
Transformation point Ar1	685	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	without limitations.	
Flake sensitivity	not predisposed	
Temper brittleness	not predisposed	

Designations across standards

34 designations · 3 documented as identical

United States	4	Italy	2
G10170 This grade's own name	uns	FeG400	uni
1017 This grade's own name	aisi-sae	FeG42	uni
Gr.N1	aisi-sae		
J01700	aisi-sae	Czechia	2
		422 630	csn
United Kingdom	3	422 633	csn
AM1	bs		
AW1	bs	Poland	2
CLA9	bs	L400	pn
		LII400	pn
Japan	3		
S17C	jis	Hungary	2
SC360	jis	Ao400	msz
SC37	jis	Ao400FK	msz
Europe	2	Romania	2
C18D This grade's own name	din-en	OT400-1	stas
GS38	din-en	OT400-3	stas
France	2	Bulgaria	2
20-40M	afnor	15LI	bds
E20-40M	afnor	15LII	bds
International	2	Russia / CIS	1
20-40	iso	15L	gost
200-400	iso		
		Sweden	1
China	2	1035	ss
15	gb		
ZG200-400	gb	Austria	1
		GS38	onorm
		Taiwan	1
		SC(37)C	cns

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 422 633

Quotation, availability, mill certificate or a technical question — directly on the material page.

[Start an enquiry](#)

DATASHEET ONLINE

View the material page

GRADE SEARCH

Search all grades

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ISSUED

Aug 20, 2026