

MATERIAL NUMBER 1.0416 · CLASS 1.0

C18D

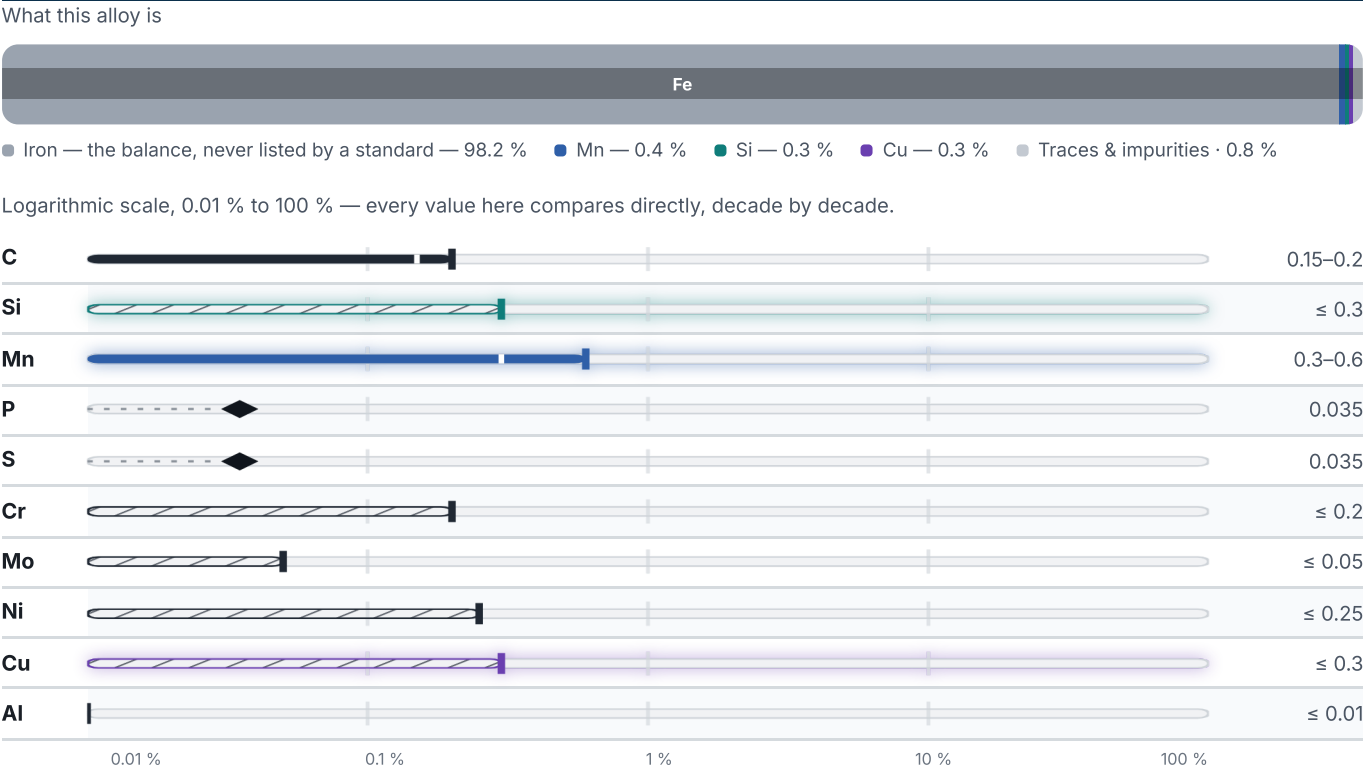
Material no. 1.0416

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 %



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/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
to 100	392	196	24	35	491

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	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/cm ³
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	United Kingdom	3
G10170 This grade's own name	uns	AM1	bs
1017 This grade's own name	aisi-sae	AW1	bs
Gr.N1	aisi-sae	CLA9	bs
J01700	aisi-sae		
		Japan	3
		S17C	jis
		SC360	jis
		SC37	jis

Europe	2	Poland	2
C18D This grade's own name	din-en	L400	pn
GS38	din-en	LII400	pn
France	2	Hungary	2
20-40M	afnor	Ao400	msz
E20-40M	afnor	Ao400FK	msz
International	2	Romania	2
20-40	iso	OT400-1	stas
200-400	iso	OT400-3	stas
China	2	Bulgaria	2
15	gb	15LI	bds
ZG200-400	gb	15LII	bds
Italy	2	Russia / CIS	1
FeG400	uni	15L	gost
FeG42	uni		
Czechia	2	Sweden	1
422 630	csn	1035	ss
422 633	csn	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 C18D

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