

MATERIAL NUMBER 1.0311 · CLASS 1.0

C12D

Material no. 1.0311

Chemical composition, mechanical and physical property values, and 5 standard designations from 4 regions.

DENSITY 7.85 g/cm³	OTHER DESIGNATIONS 5 in 4 regions	PROPERTY VALUES 11 on file
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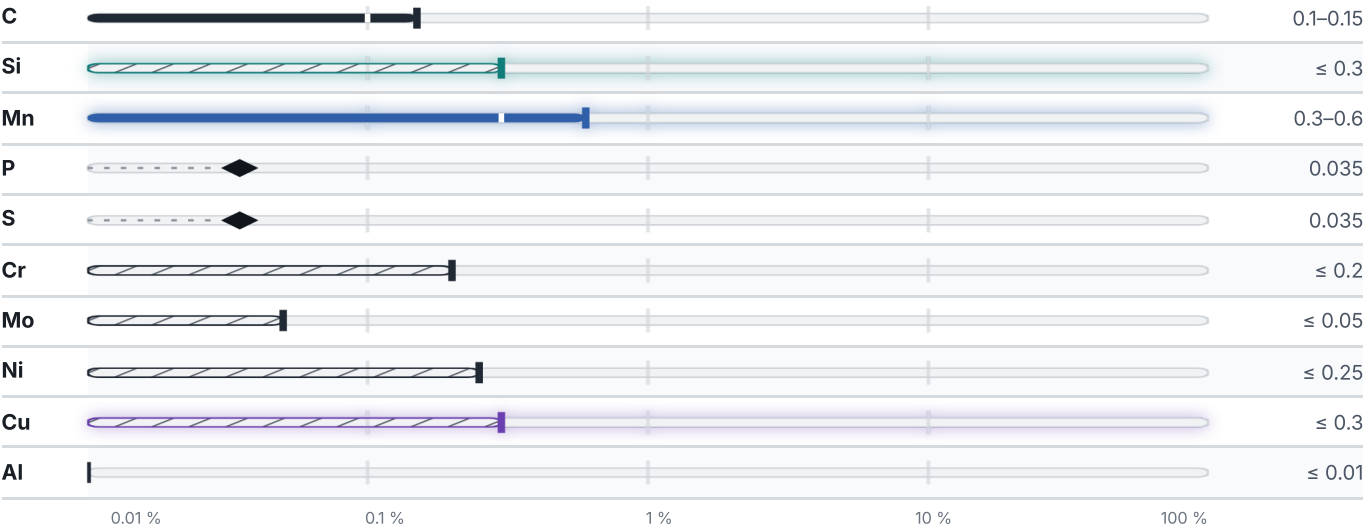
Chemical composition

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 828 °C	PREDICTED AE1 722 °C	PREDICTED ACM 381 °C	PREDICTED BS 595 °C
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Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm³

Designations across standards

5 designations · 3 documented as identical

United States	2	United Kingdom	1
G10120 This grade's own name	uns	040A12	bs
1012 This grade's own name	aisi-sae	Japan	1
Europe	1	S12C	jis
C12D This grade's own name	din-en		

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 C12D

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	1.0311	Aug 20, 2026