

MATERIAL NUMBER 1.9311 · CLASS 1.9

SAE 1012

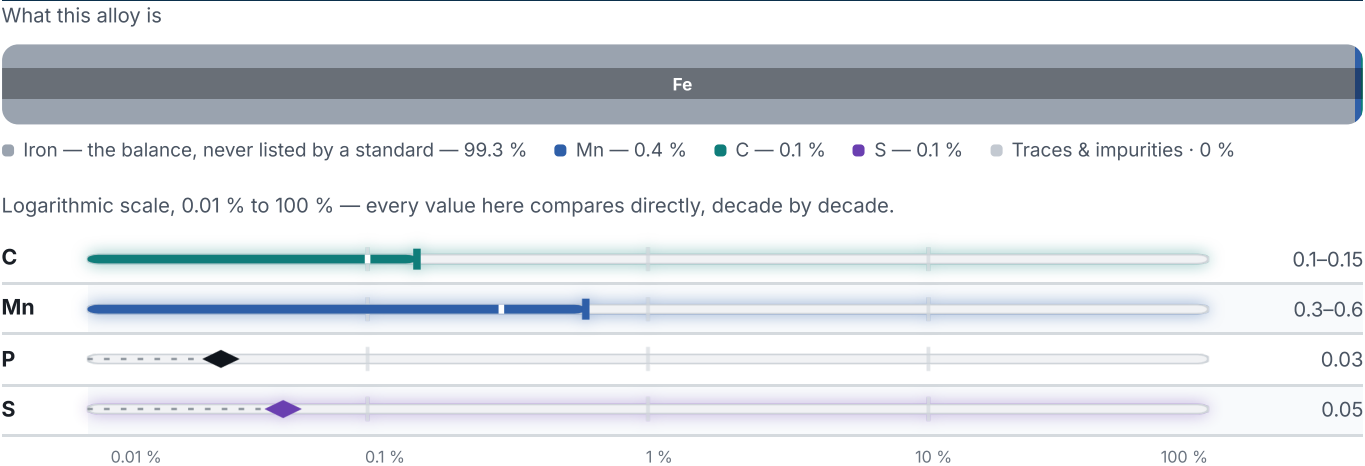
Material no. 1.9311

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 5 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

Not enough recorded composition to predict a transformation temperature for this grade — missing: Si, Ni, Cr, Mo.

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			
Europe		1	Japan		1
SAE 1012	This grade's own name	din-en	S12C		jis

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 SAE 1012

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	1.9311	Aug 20, 2026