

12Cr18Ni9Si3

Chemical composition, mechanical and physical property values, and 1 standard designations from 1 regions.

ELASTIC MODULUS

193 GPa

OTHER DESIGNATIONS

1 in 1 regions

PROPERTY VALUES

12 on file

Chemical composition

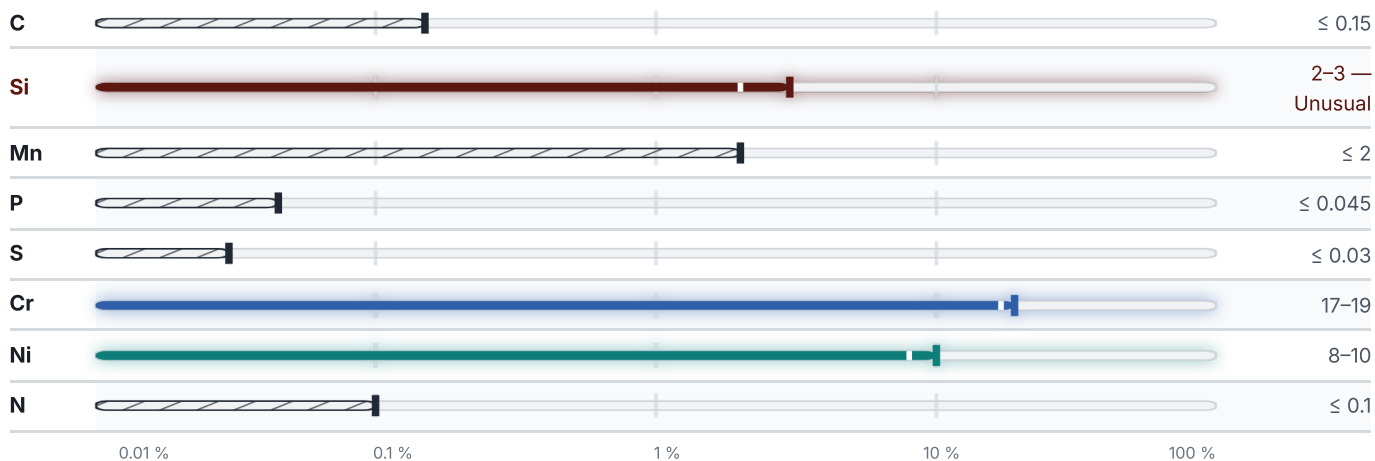
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 68.2 % ● Cr — 18 % ● Ni — 9 % ● Si — 2.5 % ● Traces & impurities · 2.3 %

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

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

Physical properties

4 values

CONDITION · DIMENSION	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	195	—	—	—
100	190	16.2	15.9	—
200	182	—	—	—
300	174	18	—	—
400	166	—	—	—
500	158	19.4	21.6	500
PROPERTY			VALUE	UNIT
Elastic modulus			193	GPa
Thermal expansion coefficient			16.2	10 ⁻⁶ /K
Specific heat capacity			500	J/(kg·K)
Electrical resistivity			730	nΩ·m

Designations across standards

1 designations · 1 documented as identical

China	1
12Cr18Ni9Si3 This grade's own name	gb

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 12Cr18Ni9Si3

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

Start an enquiry

DATASHEET ONLINE

View the material page

GRADE SEARCH

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MATERIAL NO.

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ISSUED

Aug 15, 2026