

Y12Cr13

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

ELASTIC MODULUS 200 GPa	OTHER DESIGNATIONS 1 in 1 regions	PROPERTY VALUES 13 on file
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Chemical composition

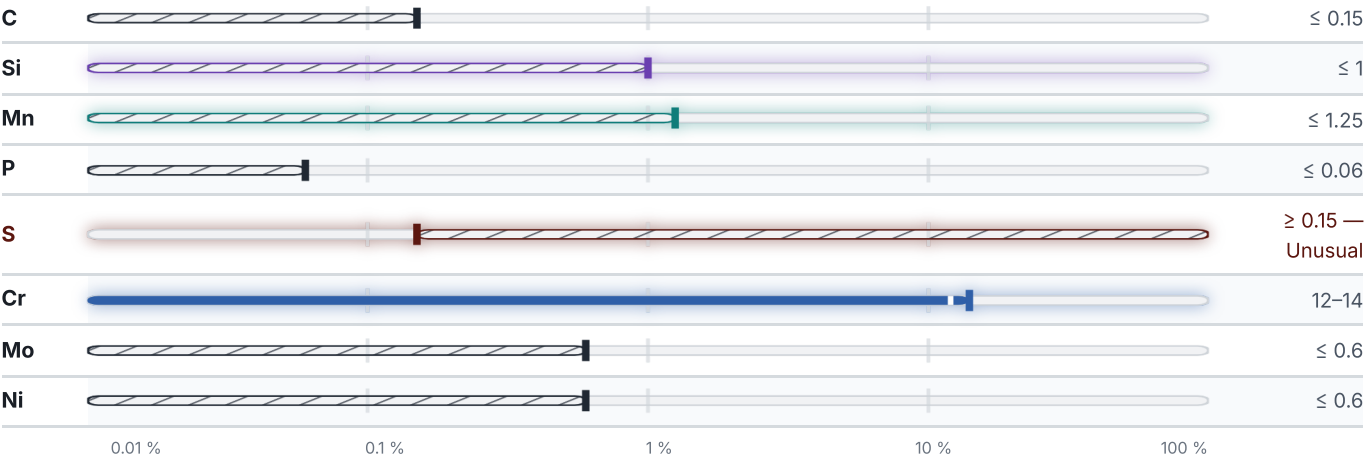
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 83.2 % ● Cr — 13 % ● Mn — 1.3 % ● Si — 1 % ● Traces & impurities · 1.6 %

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

This grade's composition falls outside the published model's validated range (a low-alloy composition window), so no transformation temperature is predicted here.

Physical properties

5 values

CONDITION · DIMENSION	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	215	–	–	–
100	212	10.5	25	–
200	205	11	–	–
300	200	11.5	–	–
400	190	12	–	–
500	–	–	–	460

PROPERTY	VALUE	UNIT
Elastic modulus	200	GPa
Thermal expansion coefficient	9.9	10 ⁻⁶ /K
Thermal conductivity	30	W/(m·K)
Specific heat capacity	460	J/(kg·K)
Electrical resistivity	600	nΩ·m

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—
source joins the operations with + / procedural order		
Quenching	Temperature not stated	—
Tempering	Temperature not stated	—
Annealing	Temperature not stated	—

Designations across standards

1 designations · 1 documented as identical

China	1
Y12Cr13 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 Y12Cr13

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

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MATERIAL NO.

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ISSUED

Aug 15, 2026