

Y12Cr18Ni9

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

ELASTIC MODULUS	OTHER DESIGNATIONS	PROPERTY VALUES
193 GPa	1 in 1 regions	13 on file

Chemical composition

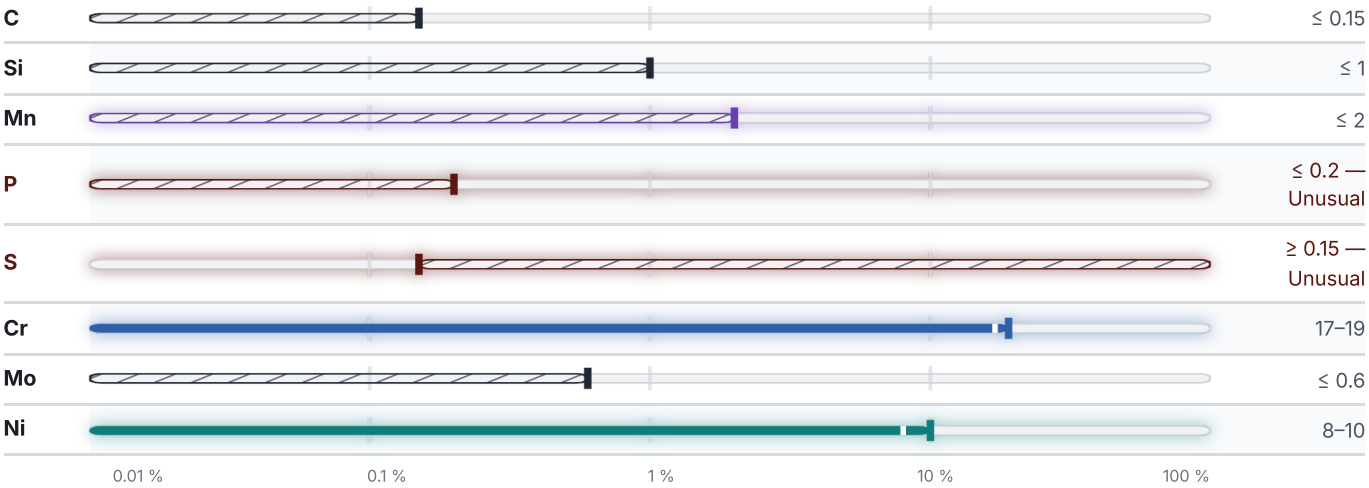
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 68.9 % ● Cr — 18 % ● Ni — 9 % ● Mn — 2 % ● Traces & impurities · 2.1 %

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	200	—	—	—
100	194	16	16.3	—
200	186	16.5	—	—
300	179	17	—	—
400	172	17.5	—	—
500	165	18	21.5	500
PROPERTY			VALUE	UNIT
Elastic modulus			193	GPa
Thermal expansion coefficient			17.3	10 ⁻⁶ /K
Thermal conductivity			15	W/(m·K)
Specific heat capacity			500	J/(kg·K)
Electrical resistivity			730	nΩ·m

Heat treatment

1 regimes

STEP	TEMPERATURE	MEDIUM
Solution annealing	Temperature not stated	—

Designations across standards

1 designations · 1 documented as identical

China	1
Y12Cr18Ni9 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 Y12Cr18Ni9

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MATERIAL NO.

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ISSUED

Aug 15, 2026