

12Cr2Ni4

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

OTHER DESIGNATIONS	PROPERTY VALUES
1 in 1 regions	9 on file

Chemical composition

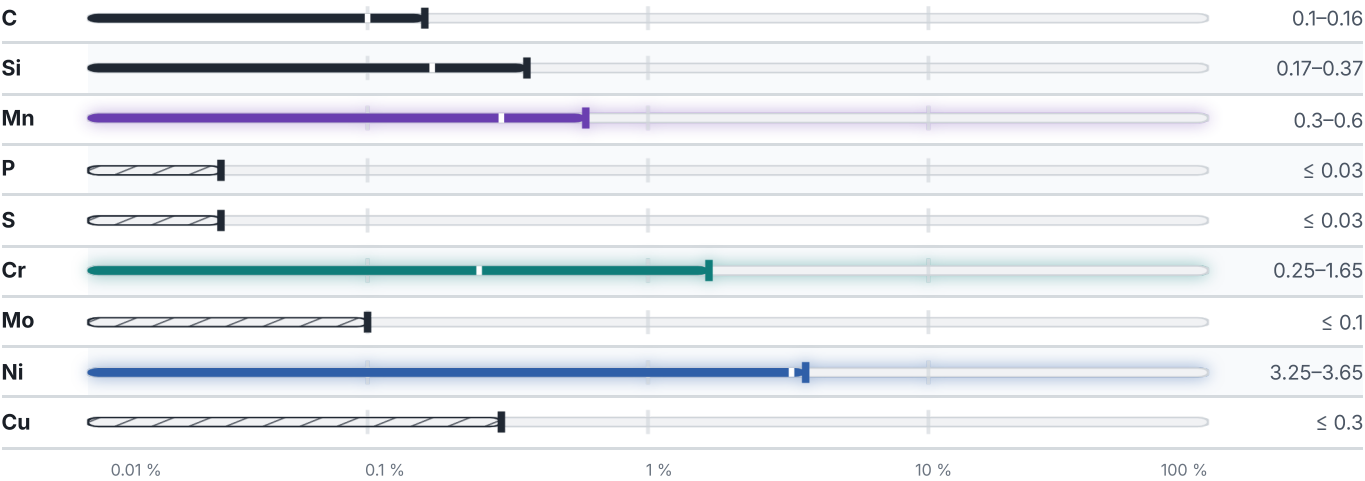
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 94.3 % ● Ni — 3.5 % ● Cr — 1 % ● Mn — 0.4 % ● Traces & impurities · 0.9 %

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.

Mechanical properties

4 values across 1 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	HB
15 – 15	≥ 1080	≥ 835	≥ 10	≤ 269

Physical properties

0 values

CONDITION · DIMENSION	E GPa	ALPHA 10 ^{^-6} /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	204	–	–	–
60	–	–	30.98	–
100	–	11.8	–	–
200	–	13	–	–
380	–	–	–	657
400	–	14.7	–	–
500	–	–	25.54	–
600	–	15.6	–	–
750	–	–	20.93	–

Heat treatment

4 regimes

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

Designations across standards

1 designations · 1 documented as identical

China	1
12Cr2Ni4	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 12Cr2Ni4
Quotation, availability, mill certificate or a technical question — directly on the material page.

Start an enquiry

DATASHEET ONLINE
View the material page

GRADE SEARCH
Search all grades

MATERIAL NO.
—

ISSUED
Aug 15, 2026