SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.6523 · CLASS 1.6

K12147

Material no. 1.6523

also listed as 20NiCrMo2-2

Chemical composition, mechanical and physical property values, and 63 standard designations from 18 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.75 g/cm³	63 in 18 regions	9 on file

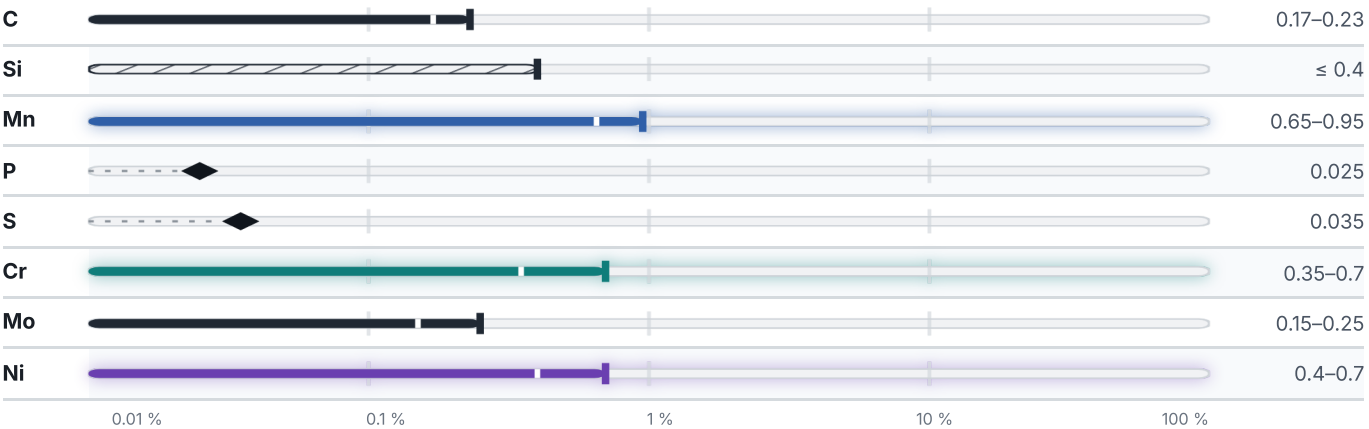
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 97.3 % · Mn — 0.8 % · Ni — 0.6 % · Cr — 0.5 % · 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

computed from composition · °C

PREDICTED AE3	PREDICTED AE1	PREDICTED ACM	PREDICTED BS
804 °C	725 °C	471 °C	546 °C

Mechanical properties

8 values across 5 conditions

CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	KCU kJ/m²
, GOST 4543-71	1180–1570	930	7	590
SOFT ANNEALED				HB
Soft annealed				212
TREATED TO HARDNESS RANGE				HB
Treated to hardness range				161–212
TREATED TO FERRITE-PEARLITE STRUCTURE AND HARDNESS RANGE				HB
Treated to ferrite-pearlite structure and hardness range				149–194
CONDITION · DIMENSION				RM N/mm²
200				1100

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.75	g/cm³

Heat treatment

4 regimes

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

Designations across standards

63 designations · 14 documented as identical

United States 20

G86170 This grade's own name	uns
G86200 This grade's own name	uns
H86170 This grade's own name	uns
H86200 This grade's own name	uns
K12147 This grade's own name	uns
8615 8617 8620 8622	aisi-sae
8617 This grade's own name	aisi-sae
8617H This grade's own name	aisi-sae
8620 This grade's own name	aisi-sae
8620H This grade's own name	aisi-sae
8620RH This grade's own name	aisi-sae
8622H	aisi-sae
8717 This grade's own name	aisi-sae
EX5 This grade's own name	aisi-sae
G86170	aisi-sae
G86200	aisi-sae
H86170	aisi-sae
H86200	aisi-sae
J11442	aisi-sae
K12147	aisi-sae

United Kingdom 9

20NiCrMo2-2	bs
20NiCrMoS2-2	bs
362	bs
805H17	bs
805H20	bs
805H22	bs
805M20	bs
806M20	bs
EN362	bs

Australia / New Zealand 4

8617	as-nzs
8617H	as-nzs
8620	as-nzs
8620H	as-nzs

Europe 3

1.6523	din-en
20NiCrMo2-2 This grade's own name	din-en
21NiCrMo2 This grade's own name	din-en

France 3

20NCD2	afnor
20NiCrMo2	afnor
22NCD2	afnor

Spain 3

20NiCrMo2	une
20NiCrMo2-2	une
20NiCrMo3-1	une

China 3

20CrNiMo	gb
20CrNiMoH	gb
G20CrNiMo	gb

International 2

20NiCrMo2	iso
20NiCrMoS2	iso

Japan 2

SNCM220	jis
SNCM220H	jis

Russia / CIS 2

20KHGNM	gost
20ХГНМ	gost

Czechia 2

16 125 PH	csn
16125	csn

Poland 2

20HNM	pn
20HNMA	pn

Finland 2

21NiCrMo2	sfs
506	sfs

South Korea 2

SNCM220	ks
SNCM220H	ks

Italy 1

20NiCrMo2	uni

Sweden 1

2506	ss

Latin America 1

8620	copant

Serbia 1

Č.7422	srps

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 K12147

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	1.6523	Aug 20, 2026