

MATERIAL NUMBER 1.6523 · CLASS 1.6

20CrNiMo

Material no. 1.6523

also listed as 20NiCrMo2-2

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

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

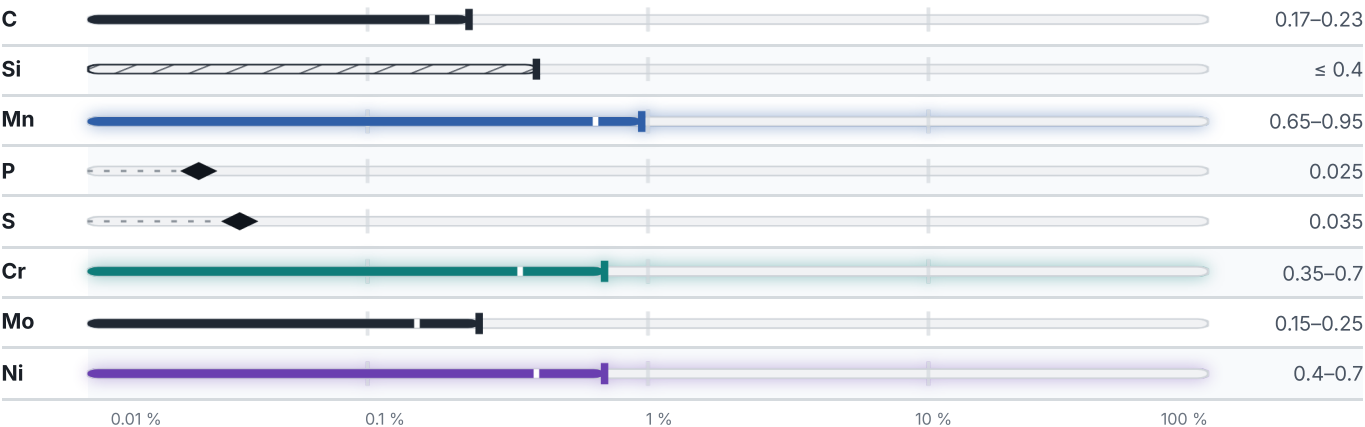
Chemical composition

Mass fraction in %

What this alloy is



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

Mechanical properties

8 values across 5 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	KCU kJ/m ²
, 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/mm ²
200				1100

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.75	g/cm ³

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	Spain		3
G86170	This grade's own name	uns	20NiCrMo2		une
G86200	This grade's own name	uns	20NiCrMo2-2		une
H86170	This grade's own name	uns	20NiCrMo3-1		une
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	China		3
20NiCrMo2-2		bs	20CrNiMo		gb
20NiCrMoS2-2		bs	20CrNiMoH		gb
362		bs	G20CrNiMo		gb
805H17		bs			
805H20		bs			
805H22		bs			
805M20		bs			
806M20		bs			
EN362		bs			
Australia / New Zealand		4	International		2
8617	as-nzs		20NiCrMo2		iso
8617H	as-nzs		20NiCrMoS2		iso
8620	as-nzs				
8620H	as-nzs				
Europe		3	Japan		2
1.6523	din-en		SNCM220		jis
20NiCrMo2-2	This grade's own name	din-en	SNCM220H		jis
21NiCrMo2	This grade's own name	din-en			
France		3	Russia / CIS		2
20NCD2	afnor		20KHGNM		gost
20NiCrMo2	afnor		20XГНМ		gost
22NCD2	afnor				
			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 20CrNiMo
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.
1.6523

ISSUED
Aug 20, 2026