

MATERIAL NUMBER 1.7147 · CLASS 1.7

SAE5120

Material no. 1.7147

also listed as 20MnCr5

Chemical composition, mechanical and physical property values, and 45 standard designations from 15 regions.

DENSITY 7.75 g/cm³	OTHER DESIGNATIONS 45 in 15 regions	PROPERTY VALUES 7 on file
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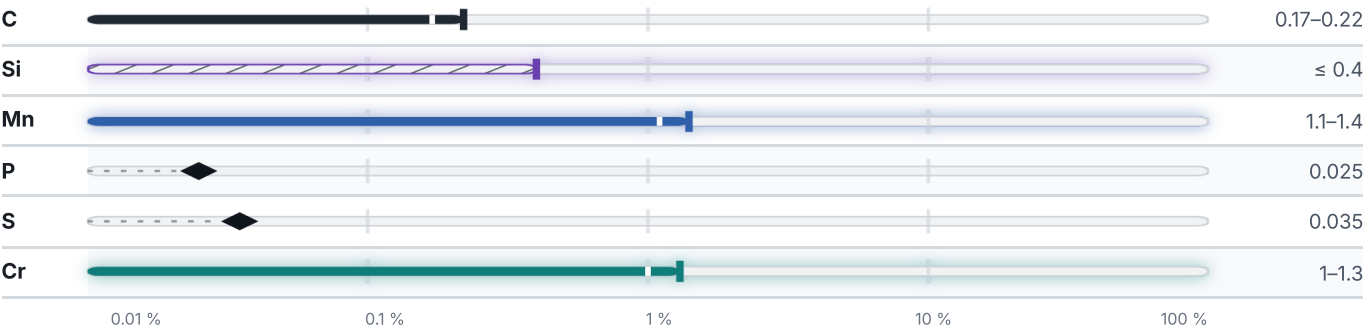
Chemical composition

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

Not enough recorded composition to predict a transformation temperature for this grade — missing: Ni, Mo.

Mechanical properties

5 values across 5 conditions

TREATED TO IMPROVE SHEARABILITY	HB
Treated to improve shearability	255
SOFT ANNEALED	HB
Soft annealed	217
TREATED TO HARDNESS RANGE	HB
Treated to hardness range	170–217
TREATED TO FERRITE-PEARLITE STRUCTURE AND HARDNESS RANGE	HB
Treated to ferrite-pearlite structure and hardness range	152–201
NORMALIZED	HB
Normalized	140–201

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.75	g/cm ³

Designations across standards

45 designations · 5 documented as identical

United States	8	Russia / CIS	6
G48200	uns	18ChG	gost
G51150	uns	18ChGT	gost
G51200 This grade's own name	uns	18KHG	gost
H51200 This grade's own name	uns	20ChG	gost
4820	aisi-sae	20X	gost
5120 This grade's own name	aisi-sae	cr.20X	gost
5120H This grade's own name	aisi-sae		
SAE5120	aisi-sae	China	4
		20CrH	gb
International	8	20CrMn	gb
16MnCr5	iso	20CrMnTi	gb
16MnCrS5	iso	20MnCr	gb
20Cr4	iso		
20Cr4H	iso	Poland	4
20CrS4	iso	16HG	pn
20MnCr5	iso	18HGT	pn
20MnCrS5	iso	18HGT 20HG	pn
21MnCr5	iso	20HG	pn

Japan	3	Spain	1
SCr420	jis	F.150.D	une
SCr420H	jis		
SMnC420H	jis	Italy	1
		20MnCr5	uni
Europe	2	Czechia	1
20MnCr5	din-en	14221	csn
21MnCr5	din-en		
		Slovakia	1
France	2	14 221	stn
16MC5	afnor		
20MC5	afnor	Serbia	1
		Č.4321	srps
Latin America	2	Finland	1
4820	copant	510	sfs
5120	copant		

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 SAE5120

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	1.7147	Aug 20, 2026