

MATERIAL NUMBER 1.7176 · CLASS 1.7

55CrMnA

Material no. 1.7176

also listed as 55Cr3

Chemical composition, mechanical and physical property values, and 47 standard designations from 18 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.45 g/cm ³	47 in 18 regions	12 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

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

Mechanical properties

9 values across 5 conditions

CONDITION · DIMENSION				HB
(annealing) , GOST 14959-79				269
(without heat treatment) , GOST 14959				302
TREATED TO IMPROVE SHEARABILITY				HB
Treated to improve shearability				280
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %
Rolled stock, GOST 14959-79	1270	1175	7	35
SOFT ANNEALED				HB
Soft annealed				248
ANNEALED TO ACHIEVE SPHEROIDIZATION OF THE CARBIDES				HB
Annealed to achieve spheroidization of the carbides				230

Physical properties

6 values

PROPERTY	VALUE	UNIT
Density	7.45	g/cm ³
Transformation point Ac1	750	°C
Transformation point Ac3	775	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	is not used.	
Flake sensitivity	not predisposed	
Temper brittleness	not predisposed	

Designations across standards

47 designations · 8 documented as identical

United States	14	Japan	2
G51500	uns	SUP9	jis
G51600 This grade's own name	uns	SUP9A	jis
H51550 This grade's own name	uns		
H51600 This grade's own name	uns	China	2
5147	aisi-sae	20CrMn	gb
5147H	aisi-sae	55CrMnA	gb
5150	aisi-sae		
5150H	aisi-sae	Czechia	2
5155 This grade's own name	aisi-sae	14160	csn
5155H This grade's own name	aisi-sae	14262	csn
5160 This grade's own name	aisi-sae		
5160H This grade's own name	aisi-sae	Australia / New Zealand	2
G51470	aisi-sae	5155	as-nzs
G51500	aisi-sae	XK5155S	as-nzs
United Kingdom	6	Bulgaria	2
525A	bs	50ChG	bds
525A58	bs	50ChGA	bds
525A61	bs		
525H60	bs	South Korea	2
527A60	bs	SPS5	ks
EN 48	bs	SPS5A	ks
Russia / CIS	3	Italy	1
50KHG	gost	55Cr3	uni
50KHGA	gost		
50XF	gost	Sweden	1
Europe	2	2253	ss
1.7176	din-en	Poland	1
55Cr3 This grade's own name	din-en	50HG	pn
France	2	Latin America	1
45C4	afnor	5160	copant
55C3	afnor		
Spain	2	Serbia	1
55Cr3	une	Č.4332	srps
F.1431	une	Belgium	1
		55Cr3	nbn

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 55CrMnA

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

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ISSUED

Aug 20, 2026