

MATERIAL NUMBER 1.2419 · CLASS 1.2

90MCW5

Material no. 1.2419

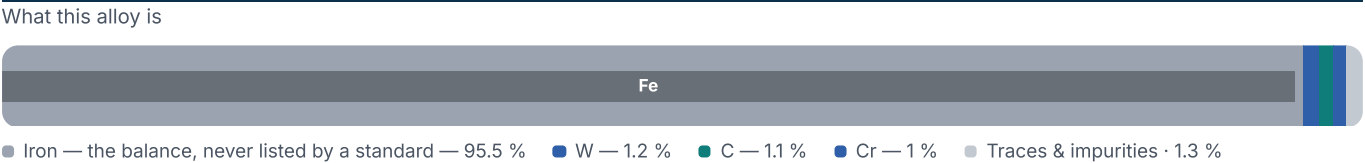
also listed as 105WCr6

Chemical composition, mechanical and physical property values, and 32 standard designations from 16 regions.

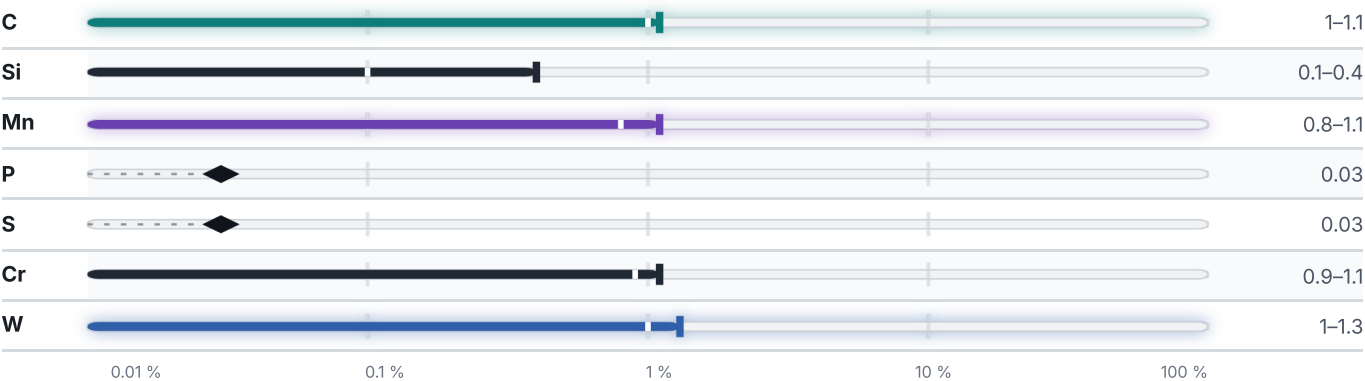
DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 32 in 16 regions	PROPERTY VALUES 14 on file
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Chemical composition

Mass fraction in %



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

3 values across 2 conditions

CONDITION · DIMENSION	HB	HRC
Annealed	217	–
Quenched and tempered	–	61
CONDITION · DIMENSION	HB	
(annealing) , GOST 5950-2000	255	

Physical properties

7 values

CONDITION · DIMENSION	RHO g/cm ³	ALPHA 10 ⁻⁶ /K	RHO_EL nΩ·m
20	7.85	–	380
100	7.83	11	–
200	–	12	–
300	7.76	13	–
400	–	13.5	–
500	–	14	–
600	7.66	14.5	–
PROPERTY	VALUE		UNIT
Density	7.85		g/cm ³
Transformation point Ac1	750		°C
Transformation point Ac3	940		°C
Transformation point Ar1	710		°C

Technological properties

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

Heat treatment

2 regimes

STEP	TEMPERATURE	MEDIUM
Quenching	Temperature not stated	—

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—

Designations across standards

32 designations · 1 documented as identical

France	4	Spain	2
105WC13	afnor	105WCr5	une
105WCr5	afnor	F.5233	une
106WCr6	afnor		
90MCW5	afnor	China	2
		CrWMn	gb
Japan	4	CrWMo	gb
SKS2	jis		
SKS3	jis	Italy	2
SKS31	jis	100WCr6	uni
SKSA	jis	107WCr5KU	uni
United States	3	International	1
T31507	uns	105WCr1	iso
O7	aisi-sae		
T31507	aisi-sae	Sweden	1
		2140	ss
Russia / CIS	3		
ChVG	gost	Serbia	1
HVG	gost	Č.6440	srps
KHVG	gost		
		Poland	1
South Korea	3	NWC	pn
STS2	ks		
STS3	ks	Hungary	1
STS31	ks	W9	msz
Europe	2	Romania	1
1.2419	din-en	105MnCrW11	stas
105WCr6 This grade's own name	din-en	Bulgaria	1
		ChWG	bds

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 90MCW5

Start an enquiry

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

DATASHEET ONLINE

View the material page

GRADE SEARCH

Search all grades

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ISSUED

Aug 20, 2026