

MATERIAL NUMBER 1.4718 · CLASS 1.4

AISI HNV 3

Material no. 1.4718

also listed as X45CrSi9-3

Chemical composition, mechanical and physical property values, and 42 standard designations from 16 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.7 g/cm ³	42 in 16 regions	15 on file

Chemical composition

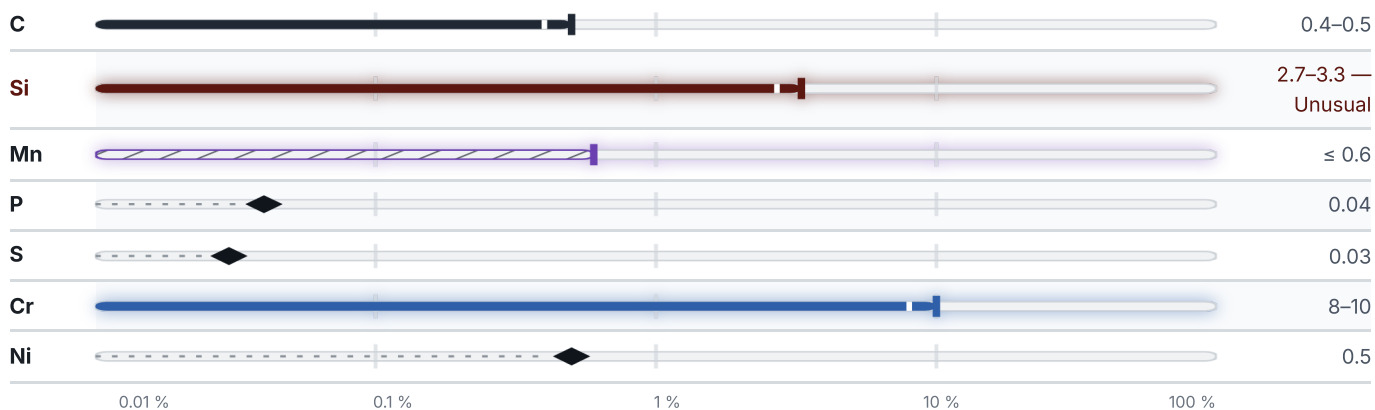
Mass fraction in %

What this alloy is



Iron — the balance, never listed by a standard — 86.4 % Cr — 9 % Si — 3 % Mn — 0.6 % Traces & impurities · 1 %

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: Mo.

Mechanical properties

12 values across 5 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	Z %	HB
Bars/Rods Quenching and tempering	930	685	15	35	–
Quenched and tempered	–	–	–	–	269
QUENCHED AND TEMPERED					Z %
≤ 40					40
QUENCHED AND TEMPERED					HB
Quenched and tempered					266–325
SOFT ANNEALED					HB
Soft annealed					300
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	
Bar, GOST 5949-75	740	440	15	35	

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm³	ALPHA 10^-6/K	LAMBDA W/(m·K)
20	7.63	–	–
100	7.61	11.1	17
200	7.58	12.7	–
300	–	–	20
400	7.51	14.3	–
PROPERTY	VALUE	UNIT	
Density	7.7	g/cm³	
Transformation point Ac1	900	°C	
Transformation point Ac3	970	°C	
Transformation point Ar3	970	°C	
Transformation point Ar1	810	°C	

Technological properties

PROPERTY	VALUE	UNIT
Weldability	is not used.	

PROPERTY	VALUE	UNIT
Flake sensitivity	not predisposed	
Temper brittleness	predisposed	

Designations across standards

42 designations · 2 documented as identical

Spain	8	Europe	3
F.322	une	1.4718	din-en
F.322 (s	une	4Cr9Si8	din-en
F.3220	une	X45CrSi9-3	din-en
F.3220-X 4 ScrSi 09-03	une		
Mo)	une	Bulgaria	3
X45CrSi09-03	une	4Ch9S2	bds
X45CrSi9-3	une	4Ch9S3	bds
X4ScrSi09-03	une	X45CrSi9-3	bds
United States	5	France	2
S65007	uns	X45CrSi9-3	afnor
AISI HNV 3	aisi-sae	Z45CS9	afnor
HNv 3	aisi-sae		
HW3	aisi-sae	Japan	2
S65007	aisi-sae	SUH1	jis
		SUH2	jis
United Kingdom	4	International	1
401S45	bs	X50CrSi8-2	iso
401S45EN52	bs		
En 52	bs	Italy	1
X45CrSi9-3	bs	X45CrSi8	uni
China	4	Czechia	1
4Cr9Si2	gb	17115	csn
4Cr9Si8	gb		
X45CrSi93	gb	Poland	1
ZG40Cr9Si2	gb	H9S2	pn
Russia / CIS	4	Hungary	1
40Ch9S2	gost	SZ3	msz
40KH9S2	gost		
40X9C2	gost	Romania	1
4X9C2	gost	45SiCr90	stas
		South Korea	1
		STR1	ks

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 AISI HNV 3

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ISSUED

Aug 20, 2026