

MATERIAL NUMBER 1.0481 · CLASS 1.0

ASt45

Material no. 1.0481

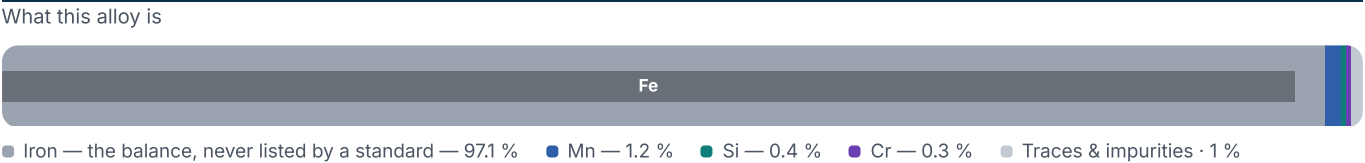
also listed as 17Mn4

Chemical composition, mechanical and physical property values, and 83 standard designations from 16 regions.

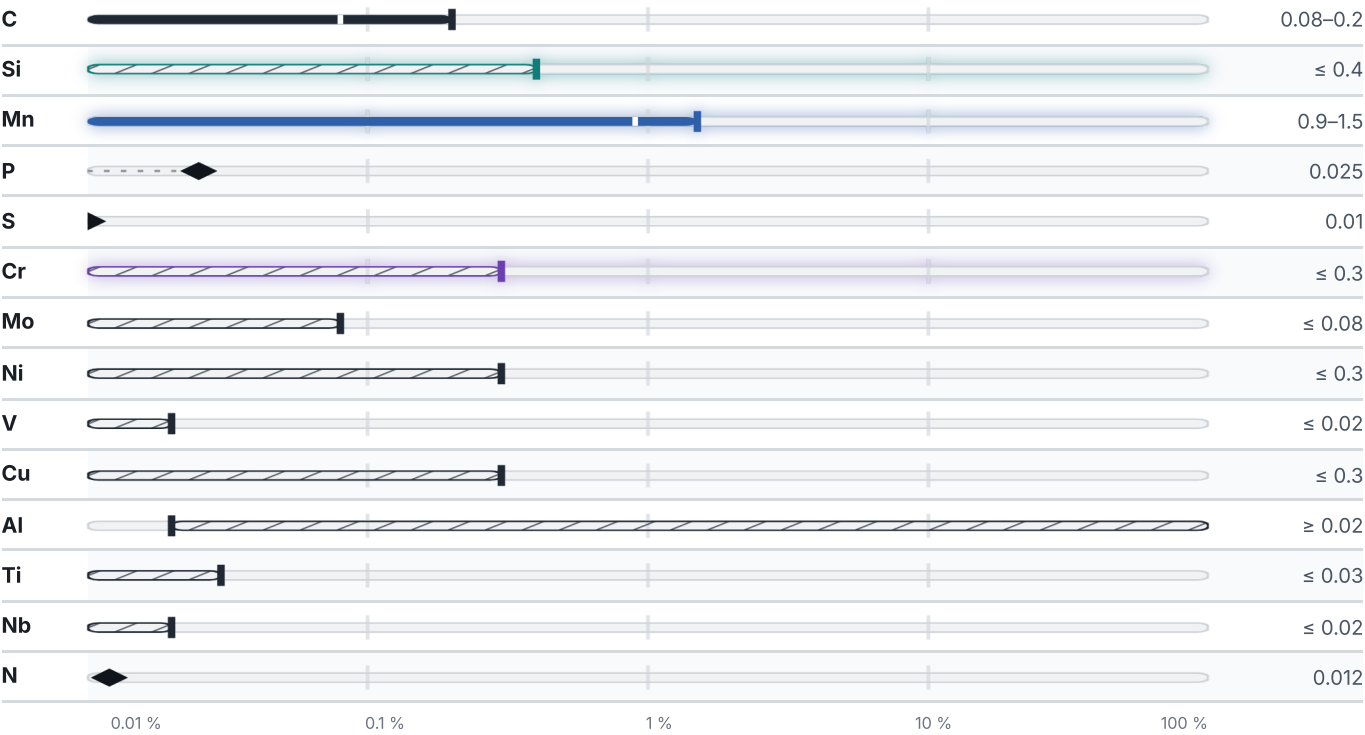
DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 83 in 16 regions	PROPERTY VALUES 16 on file
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Chemical composition

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

computed from composition · °C

PREDICTED AE3 810 °C	PREDICTED AE1 714 °C	PREDICTED ACM 436 °C	PREDICTED BS 555 °C
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Mechanical properties

13 values across 2 conditions

NORMALIZED	REH N/mm ²	RM N/mm ²
≤ 16	295	—
16 – 40	290	—
40 – 60	285	—
60 – 100	260	—
≤ 100	—	460–580
100 – 150	235	440–570
150 – 250	220	430–570

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	KCU kJ/m ²
Sheet, GOST 5520-79	430–520	255–275	20	590

Physical properties

2 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Technological properties

PROPERTY	VALUE	UNIT
Weldability	without limitations.	

Heat treatment

1 regimes

STEP	TEMPERATURE	MEDIUM
Normalizing	Temperature not stated	—

Designations across standards

83 designations · 9 documented as identical

United States		25	Russia / CIS		8
K02203	This grade's own name	uns	14G2		gost
K02704	This grade's own name	uns	14G2AF		gost
K03101	This grade's own name	uns	14G2AFD		gost
K03102	This grade's own name	uns	14KH2GMR		gost
K03501	This grade's own name	uns	14KH2GMRL		gost
1022		aisi-sae	14Г2		gost
A414(F)		aisi-sae	18K		gost
A414(G)		aisi-sae	ст.14Г2		gost
A515(70)		aisi-sae	United Kingdom		7
A516(70)		aisi-sae	224-430		bs
A516Gr.65		aisi-sae	224-460B		bs
Gr.B		aisi-sae	224Gr.460		bs
Gr.C		aisi-sae	224Gr.490		bs
K02203		aisi-sae	430LT		bs
K02403		aisi-sae	440		bs
K02700		aisi-sae	P295GH		bs
K02704		aisi-sae	Europe		5
K03101		aisi-sae	1.0436		din-en
K03102		aisi-sae	17Mn4	This grade's own name	din-en
K03103		aisi-sae	ASt45		din-en
X46		aisi-sae	P295GH	This grade's own name	din-en
A414 Gr F		astm	X46		din-en
A515 Grade 70	This grade's own name	astm	France		5
A516 Grade70	This grade's own name	astm	A 48CP		afnor
A516(70)		astm	A48AP		afnor
Italy		9	A48FP		afnor
Fe460-1KG		uni	AP		afnor
Fe460-1KW		uni	P295GH		afnor
Fe510-1KG		uni	Spain		3
Fe510-1KT		uni	A 47 RC1		une
Fe510-1KW		uni	A47RCI		une
Fe510-2KG		uni	RAII		une
Fe510-2KT		uni	Czechia		3
Fe510-2KW		uni	11478		csn
P295GH		uni	11481		csn
Japan		8	13030		csn
SB46		jis	International		2
SB49		jis	P11		iso
SG365		jis	P290		iso
SGV410		jis			
SGV450		jis			
SGV480		jis			
SPV315		jis			
SPV32		jis			

Sweden	2	Hungary	1
2102	ss	P295GH	msz
2103	ss		
Bulgaria	2	Romania	1
16GS	bds	K460	stas
P295GH	bds		
Slovakia	1	Austria	1
13 030	stn	17Mn4KW	onorm

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 ASt45

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

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DATASHEET ONLINE

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GRADE SEARCH

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ISSUED

Aug 20, 2026