

MATERIAL NUMBER 1.0762 · CLASS 1.0

45MnS6

Material no. 1.0762

also listed as 44 SMn 28

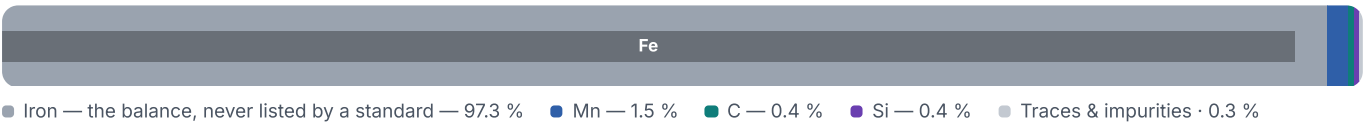
Chemical composition, mechanical and physical property values, and 52 standard designations from 19 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 52 in 19 regions	PROPERTY VALUES 10 on file
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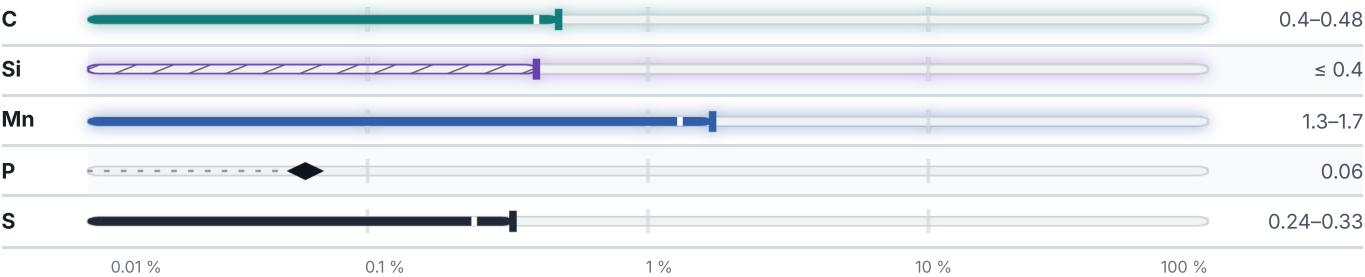
Chemical composition

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, Cr, Mo.

Mechanical properties

18 values across 4 conditions

COLD DRAWN / HARD	RM N/mm ²	A %
5 – 10	760–1030	5

COLD DRAWN / HARD	RM N/mm ²	A %
10 – 16	710–980	5
16 – 40	660–900	6
40 – 63	650–870	7
63 – 100	630–840	7

CONDITION · DIMENSION	RM N/mm ²	A5 %	Z %	HB
Rolled stock hotrolled, GOST 1414-75	590	14	20	–
Rolled stock GOST 1414-75	–	–	–	207
(annealing) , Rolled stock GOST 1414-75	–	–	–	229

CONDITION · DIMENSION	RM N/mm ²	A5 %
Rolled stock cold-drawn , GOST 1414-75	590	17

AS ROLLED AND TURNED	HB
As rolled and turned	181–242

Physical properties

5 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³
Transformation point Ac1	730	°C
Transformation point Ac3	830	°C

Technological properties

PROPERTY	VALUE	UNIT
Flake sensitivity	predisposed	
Temper brittleness	predisposed	

Heat treatment

2 regimes

STEP	TEMPERATURE	MEDIUM
Tempering	Temperature not stated	—
Tempering	Temperature not stated	—

Designations across standards

52 designations · 5 documented as identical

United States	13	Bulgaria	3
G11440 This grade's own name	uns	44SMn28	bds
1141	aisi-sae	45G2	bds
1144 This grade's own name	aisi-sae	A45	bds
1345	aisi-sae		
1345H	aisi-sae	Europe	2
C1144	aisi-sae	40S20	din-en
G11410	aisi-sae	44 SMn 28 This grade's own name	din-en
G11440	aisi-sae		
G11444	aisi-sae	France	2
G11460	aisi-sae	45MF4	afnor
G13450	aisi-sae	45MF6	afnor
H13450	aisi-sae		
C1144	astm	International	2
		35SMn20	iso
Japan	6	44SMn28	iso
44SMn28 This grade's own name	jis		
SMn3	jis	Spain	1
SMn433	jis	45MnS6	une
SMn433H	jis		
SUM42	jis	Italy	1
SUM43	jis	CF44SMn28	uni
Russia / CIS	5	Sweden	1
45G2	gost	2120	ss
45Г2	gost		
A40G	gost	Czechia	1
A40G	gost	11140	csn
A40Г	gost		
		Latin America	1
United Kingdom	4	1144	copant
216M36	bs		
225M36	bs	Hungary	1
226M44	bs	ANS2	msz
44SMn28	bs		
		Romania	1
China	3	AUT40Mn	stas
45Mn2	gb		
45Mn2A	gb	Australia / New Zealand	1
Y40Mn	gb	X1345	as-nzs
Poland	3	South Korea	1
45G2	pn	SUM43 This grade's own name	ks
A35G2	pn		
A45	pn		

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 45MnS6
Quotation, availability, mill certificate or a technical question — directly on the material page.

Start an enquiry

DATASHEET ONLINE
View the material page

GRADE SEARCH
Search all grades

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ISSUED
Aug 20, 2026