

MATERIAL NUMBER 1.0762 · CLASS 1.0

A45

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 %



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

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

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ISSUED
Aug 20, 2026