SteelEquivalents.com

Material datasheet
As of Aug 20, 2026

MATERIAL NUMBER 1.0912 · CLASS 1.0

ЭИ958

Material no. 1.0912

also listed as 46Mn7

Chemical composition, mechanical and physical property values, and 31 standard designations from 11 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.85 g/cm³	31 in 11 regions	14 on file

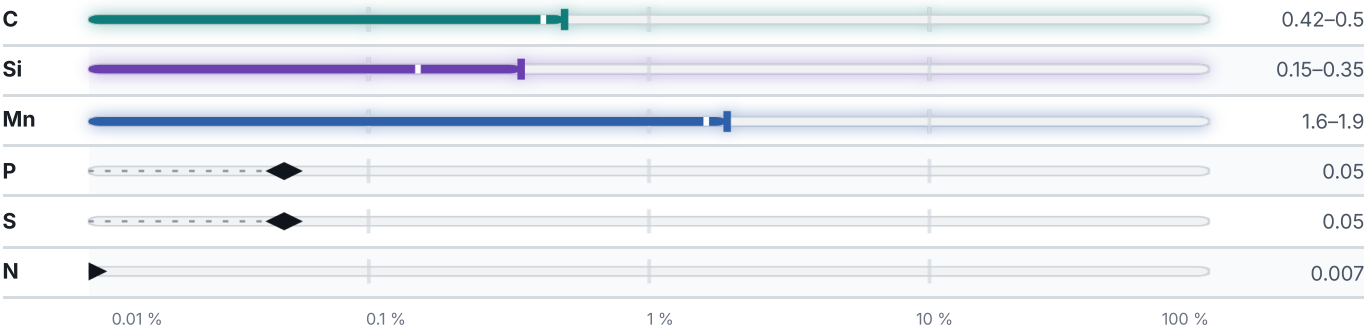
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 97.4 % · Mn — 1.8 % · C — 0.5 % · Si — 0.3 % · Traces & impurities · 0.1 %

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: Ni, Cr, Mo.

Mechanical properties

6 values across 2 conditions

CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²
Bar, GOST 4543-71	1420	1275	7	35	390

CONDITION · DIMENSION	HB
45KHN2MFA (45ХН2МФА) (annealing) , GOST 4543-71	269

Physical properties

8 values

CONDITION · DIMENSION	E GPa	ALPHA 10^-6/K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	216	–	34	–	300
100	207	11	34	480	363
200	197	11.6	33	500	460
300	188	12.1	32	520	557
400	176	12.7	31	540	677
500	168	13.3	30	555	822
600	152	13.7	29	–	993
700	136	13.9	27	–	1160
800	128	11.9	26	–	–

PROPERTY	VALUE	UNIT
Density	7.85	g/cm³
Transformation point Ac1	735	°C
Transformation point Ac3	825	°C
Transformation point Ar3	470	°C
Transformation point Ar1	370	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	hard weldability.	
Flake sensitivity	predisposed	
Temper brittleness	not predisposed	

Heat treatment

5 regimes

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—
source joins the operations with + / procedural order		
Normalizing	Temperature not stated	—
Tempering	Temperature not stated	—
source joins the operations with + / procedural order		
Quenching	Temperature not stated	—
Tempering	Temperature not stated	—
source joins the operations with + / procedural order		
Annealing	Temperature not stated	—
Annealing	Temperature not stated	—
Tempering	Temperature not stated	—
Normalizing	Temperature not stated	—
Tempering	Temperature not stated	—
Spheroidize annealing	Temperature not stated	—

Designations across standards

31 designations · 5 documented as identical

United States 8

G13450 This grade's own name	uns
H13450 This grade's own name	uns
1040	aisi-sae
1045	aisi-sae
1046	aisi-sae
1345 This grade's own name	aisi-sae
1345H This grade's own name	aisi-sae
G10460	aisi-sae

Russia / CIS 7

45G	gost
45KHN2MFA	gost
45Г2	gost
45ХНМФА	gost
4KH5V2FS	gost
AS45G2	gost
ЭИ958	gost

United Kingdom 3

080M46	bs
C45	bs
C45E	bs

Japan 3

S45C	jis
S48C	jis
SMn443	jis

China 3

45	gb
45Mn2	gb
ML45Mn	gb

Czechia 2

13 250 PH	csn
13250	csn

Europe 1

46Mn7 This grade's own name	din-en

France	1
C45E	afnor

Poland	1
45G	pn

Italy	1
C45E	uni

Bulgaria	1
45G	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.

DATASHEET ONLINE	GRADE SEARCH	MATERIAL NO.	ISSUED
View the material page	Search all grades	1.0912	Aug 20, 2026