

MATERIAL NUMBER 1.0727 · CLASS 1.0

45 S 20

Material no. 1.0727

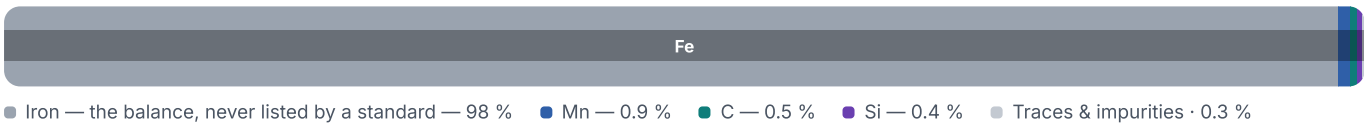
Chemical composition, mechanical and physical property values, and 12 standard designations from 8 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 12 in 8 regions	PROPERTY VALUES 6 on file
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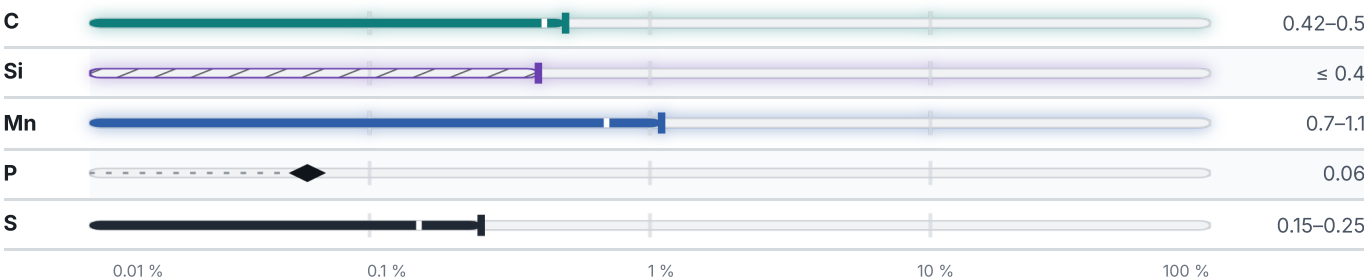
Chemical composition

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

11 values across 2 conditions

COLD DRAWN / HARD	RM N/mm ²	A %
5 – 10	740–980	5

COLD DRAWN / HARD	RM N/mm ²	A %
10 – 16	690–930	6
16 – 40	640–880	7
40 – 63	610–850	8
63 – 100	580–820	8
AS ROLLED AND TURNED		HB
As rolled and turned		166–225

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

12 designations · 7 documented as identical

United States	4	France	1
G11390 This grade's own name	uns	45MF4	afnor
G11460 This grade's own name	uns	International	1
1139 This grade's own name	aisi-sae	46S20	iso
1146 This grade's own name	aisi-sae	Japan	1
Europe	2	46S20 This grade's own name	jis
45 S 20 This grade's own name	din-en	Sweden	1
46 S 20 This grade's own name	din-en	1973	ss
United Kingdom	1	Poland	1
212M44	bs	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 45 S 20

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

[Start an enquiry](#)

DATASHEET ONLINE	GRADE SEARCH	MATERIAL NO.	ISSUED
View the material page	Search all grades	1.0727	Aug 20, 2026