

MATERIAL NUMBER 1.0045 · CLASS 1.0

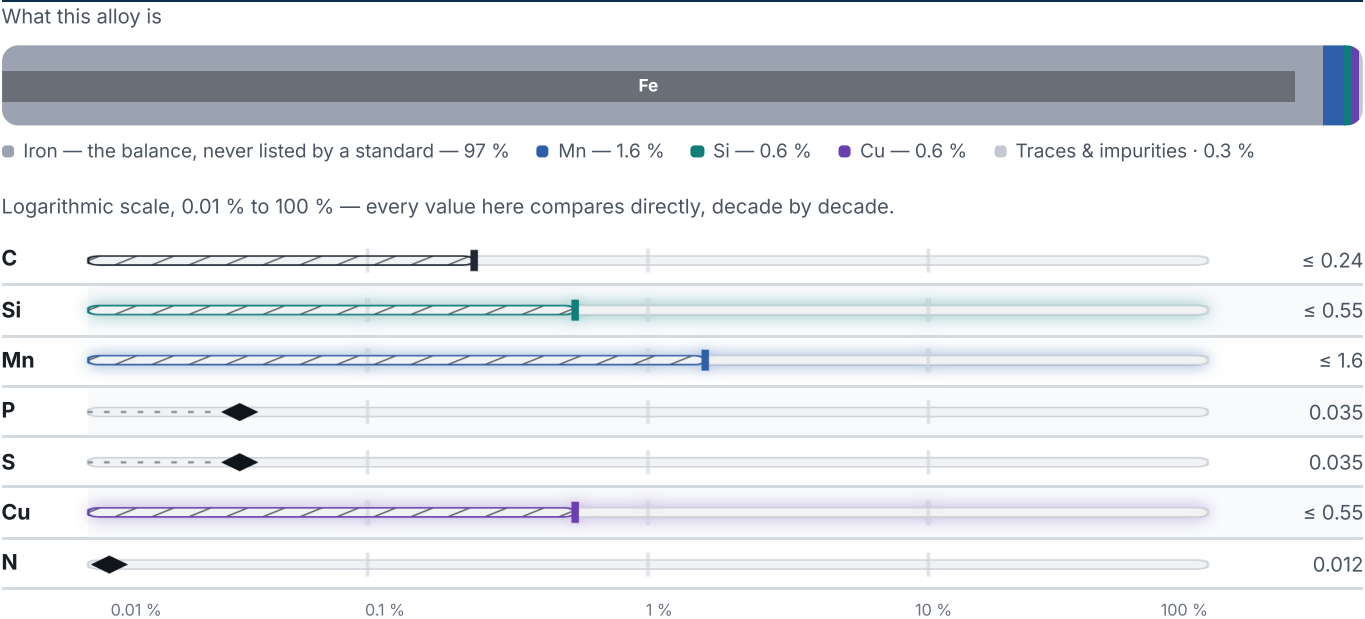
1.0045

Chemical composition, mechanical and physical property values, and 32 standard designations from 17 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 32 in 17 regions	PROPERTY VALUES 8 on file
--	---	-------------------------------------

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

46 values across 3 conditions

FLAT AND LONG PRODUCTS	REH N/mm ²	RM N/mm ²
≤ 3	—	510–680

FLAT AND LONG PRODUCTS	REH N/mm ²	RM N/mm ²	
3 – 100	–	470–630	
≤ 16	355	–	
16 – 40	345	–	
40 – 63	335	–	
63 – 80	325	–	
80 – 100	315	–	
100 – 150	295	450–600	
150 – 250	–	450–600	
150 – 200	285	–	
200 – 250	275	–	
CONDITION · DIMENSION	A80 % · Lo = 80 mm	A % · Lo = 5,65 √So	
≤ 1	14	–	
1 – 1.5	15	–	
1.5 – 2	16	–	
2 – 2.5	17	–	
2.5 – 3	18	–	
3 – 40	–	22	
40 – 63	–	21	
63 – 100	–	20	
100 – 150	–	18	
150 – 250	–	17	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %
≤ 16	470–630	≥ 345	≥ 20
16 – 40	470–630	≥ 335	≥ 20
40 – 63	470–630	≥ 325	≥ 19
63 – 80	470–630	≥ 315	≥ 19
80 – 100	470–630	≥ 305	≥ 19
100 – 150	450–600	≥ 285	≥ 18
150 – 200	450–600	≥ 275	≥ 17
200 – 250	450–600	≥ 265	≥ 17

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

32 designations · 4 documented as identical

United States	5	Japan	2
K02404 This grade's own name	uns	SM490A	jis
K02702 This grade's own name	uns	SS490	jis
A572	aisi-sae	Canada	2
A678Gr.A	aisi-sae	350W	csa
SSGrade50	aisi-sae	350WT	csa
Europe	4	France	1
Fe510B	din-en	E36-2	afnor
S355JR This grade's own name	din-en	Spain	1
SSGrade50	din-en	AE355B	une
St52-3	din-en	Portugal	1
China	3	FE510-B	np
50B This grade's own name	gb	Italy	1
Q345B	gb	Fe510B	uni
Q345C	gb	Sweden	1
Brazil	3	2132-01	ss
NBR 5000 Grau 35	abnt	Poland	1
NBR 5004 Grau Q35	abnt	18G2A	pn
NBR 7007 AR350	abnt	Hungary	1
United Kingdom	2	Fe 355 B	msz
50B	bs	South Africa	1
Gr 50B	bs	350 WA	sans
International	2	Belgium	1
E355C	iso	AE355B	nbn
Fe510B	iso		

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 1.0045

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](#)

MATERIAL NO.

1.0045

ISSUED

Aug 20, 2026