

MATERIAL NUMBER 1.0590 · CLASS 1.0

1.0590

Chemical composition, mechanical and physical property values, and 3 standard designations from 3 regions.

DENSITY 7.85 g/cm³	OTHER DESIGNATIONS 3 in 3 regions	PROPERTY VALUES 11 on file
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Chemical composition

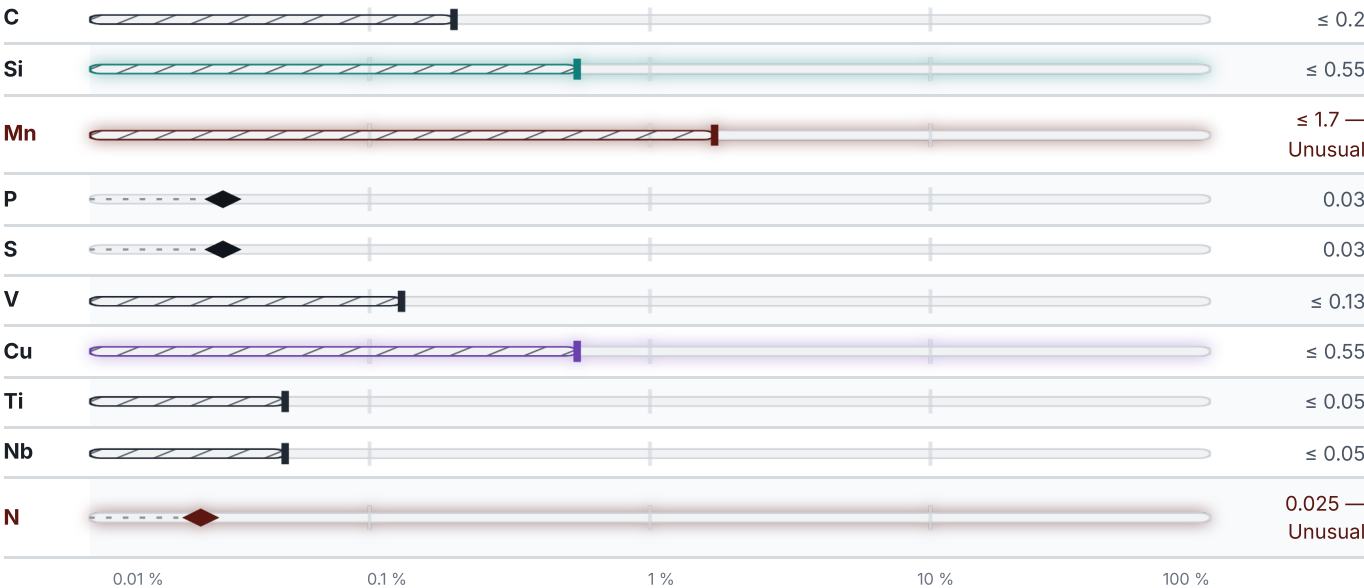
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 96.7 % ● Mn — 1.7 % ● Si — 0.6 % ● Cu — 0.6 % ● Traces & impurities · 0.5 %

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

12 values across 2 conditions

FLAT AND LONG PRODUCTS	REH N/mm ²	RM N/mm ²
3 – 100	–	550–720
≤ 16	450	–
16 – 40	430	–
40 – 63	410	–
63 – 80	390	–
80 – 100	380	–
100 – 150	380	530–700
CONDITION · DIMENSION	A % · Lo = 5,65 √So	
3 – 40	17	
40 – 63	17	
63 – 100	17	
100 – 150	17	

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

3 designations · 1 documented as identical

Europe	1	Brazil	1
S450J0 This grade's own name	din-en	NBR 7007 AR415	abnt
United Kingdom	1		
55C	bs		

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 1.0590

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