

ЭП450

also listed as 12Kh12M1BFR-Sh

Chemical composition, mechanical and physical property values, and 5 standard designations from 1 regions.

OTHER DESIGNATIONS	PROPERTY VALUES
5 in 1 regions	10 on file

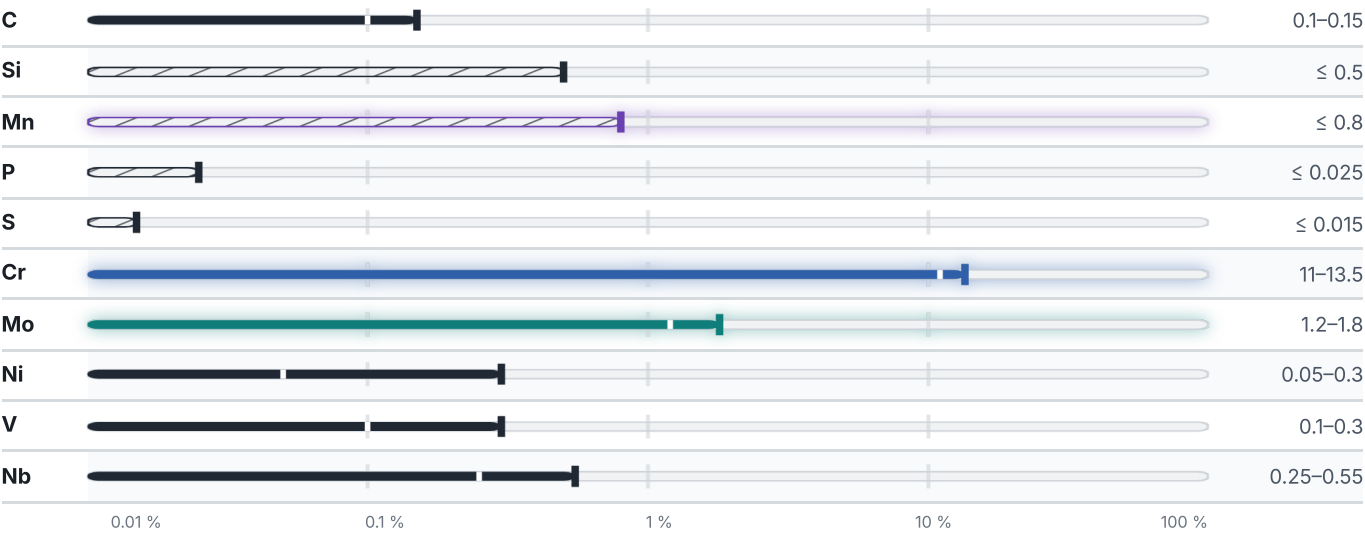
Chemical composition

Mass fraction in %



● Iron — the balance, never listed by a standard — 84 % ● Cr — 12.3 % ● Mo — 1.5 % ● Mn — 0.8 % ● Traces & impurities · 1.4 %

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

This grade's composition falls outside the published model's validated range (a low-alloy composition window), so no transformation temperature is predicted here.

Mechanical properties

3 values across 1 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %
Blank for pipe	640	490	12

Designations across standards

5 designations · 1 documented as identical

Russia / CIS	5
12Kh12M1BFR-Sh	This grade's own name gost
12X12M1БФР	gost
12X12M1БФР-Ш	gost
ЭП450	gost
ЭП450-Ш	gost

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 ЭП450

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	—	Aug 15, 2026