

1X12BHMΦ

also listed as 15KH12VNMF

Chemical composition, mechanical and physical property values, and 4 standard designations from 1 regions.

OTHER DESIGNATIONS	PROPERTY VALUES
4 in 1 regions	15 on file

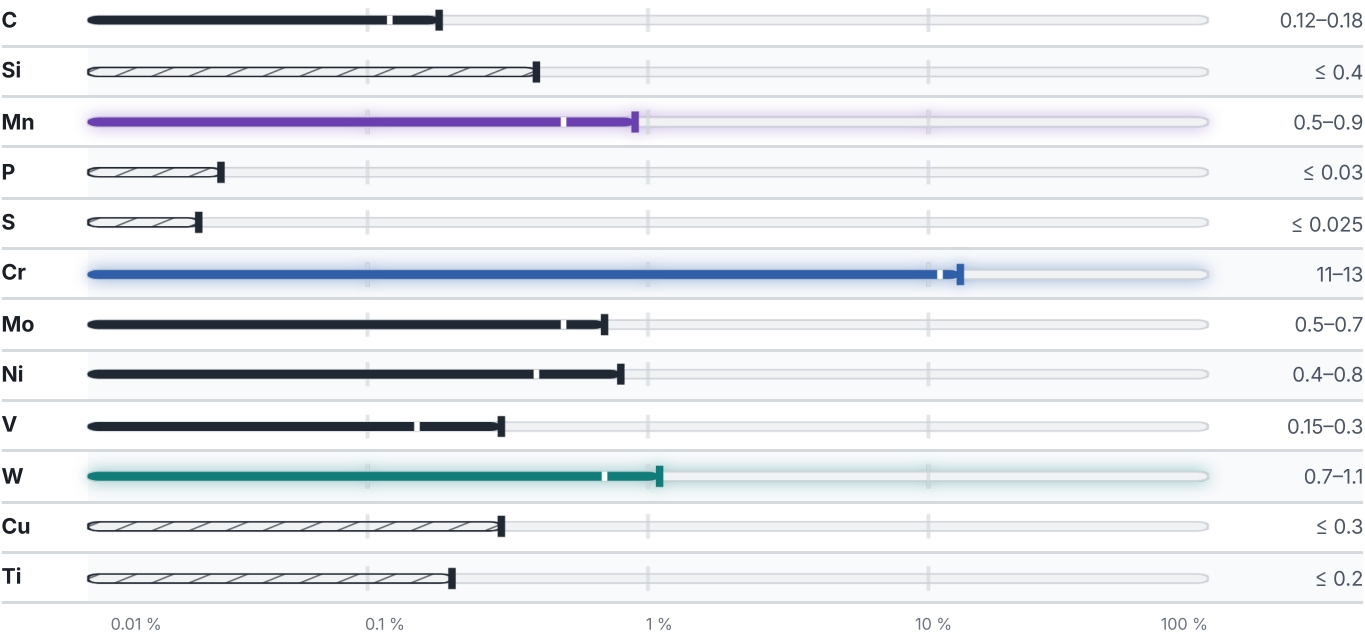
Chemical composition

Mass fraction in %



Iron — the balance, never listed by a standard — 83.9 % Cr — 12 % W — 0.9 % Mn — 0.7 % Traces & impurities · 2.5 %

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

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

17 values across 3 conditions

CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²	HB
Bar, GOST 5949-75	740	590	15	45	590	–
15KH12VNMF (15X12BHMΦ) (annealing) , Bar GOST 5949-75	–	–	–	–	–	229
15KH12VNMF (15X12BHMΦ) (normalize, tempering) , Bar GOST 18968-73	–	–	–	–	–	229–269
CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²	
Bar, GOST 18968-73	740	590–735	15	50	590	
ANNEALING 900 - 950°C, OVEN, QUENCHING 1000 - 1020°C, OIL, DRAWING 600 - 700°C, AIR	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²	
60	740	590	15	45	590	

Physical properties

3 values

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10 ^{^-6} /K	LAMBDA W/(m·K)	CP J/(kg·K)
20	7.85	216	–	–	–
100	–	–	10	24	477
200	–	–	10.5	25.5	498
300	–	200	10.7	25.9	545
400	–	194	11	26.3	625
500	–	184	11.2	26.8	741
600	–	166	11.6	27.2	896
700	–	–	–	27.2	–
800	–	–	–	27.6	–
PROPERTY	VALUE	UNIT			
Transformation point Ac1	800	°C			
Transformation point Ac3	860	°C			

Technological properties

PROPERTY	VALUE	UNIT
Weldability	hard weldability.	

Designations across standards

4 designations · 1 documented as identical

Russia / CIS	4
15KH12VNMF	This grade's own name gost
15X12BHMΦ	gost
1X12BHMΦ	gost
ЭИ802	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 1X12BHMΦ

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MATERIAL NO.

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ISSUED

Aug 15, 2026