SteelEquivalents.com

Material datasheet
As of Aug 15, 2026

20KhN3MFA

also listed as 20Kh3MVF

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

OTHER DESIGNATIONS	PROPERTY VALUES
5 in 1 regions	16 on file

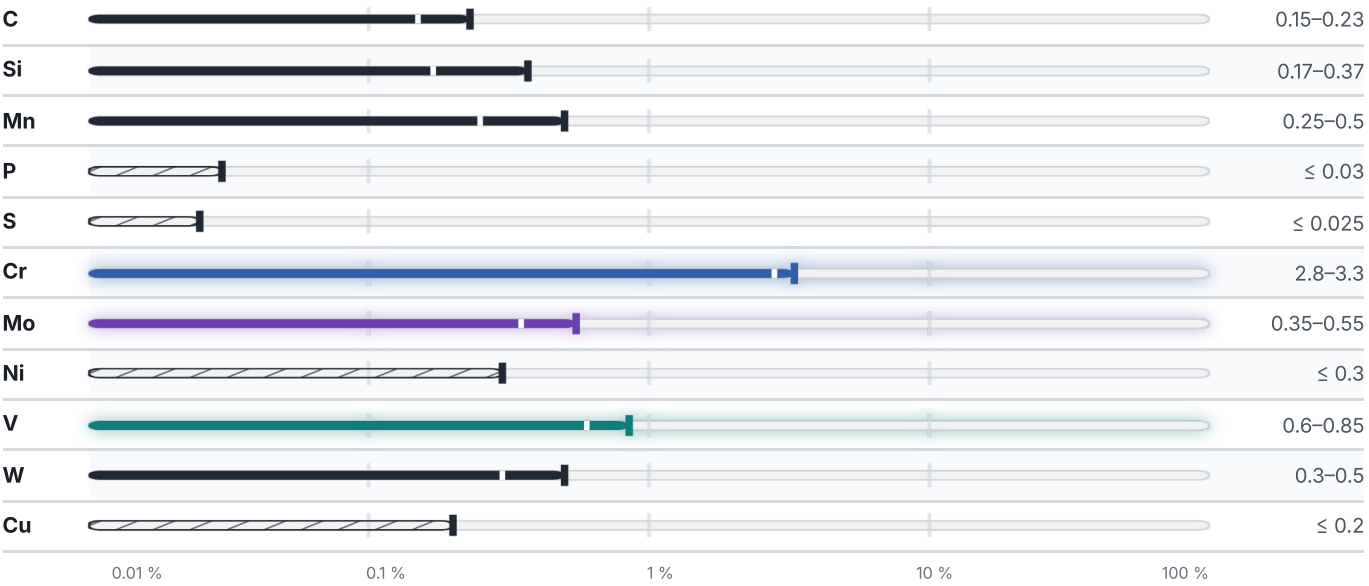
Chemical composition

Mass fraction in %

What this alloy is

Iron — the balance, never listed by a standard — 94 % · Cr — 3.1 % · V — 0.7 % · Mo — 0.5 % · Traces & impurities · 1.8 %

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

computed from composition · °C

PREDICTED AE3	PREDICTED AE1	PREDICTED ACM	PREDICTED BS
812 °C	797 °C	529 °C	467 °C

Mechanical properties

16 values across 2 conditions

CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²
Bar, band, GOST 20072-74	880	735	12	40	590
Arbor, rotor	750	650	13	40	500
Arbor, rotor	730	620	11	32	400

CONDITION · DIMENSION	HB
20Kh3MVF (20Х3МВФ) (hot-rolled, annealing) , GOST 20072-74	269

Physical properties

5 values

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10^-6/K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	7.8	207	–	38.5	–	–
100	–	204	10.6	35.6	502	398
200	–	200	11.5	33.1	560	465
300	–	193	11.8	31.4	610	544
400	7.69	186	12.1	30.6	650	640
500	7.66	182	12.6	29.7	710	743
600	7.62	177	13	29.3	750	859
700	–	171	–	28.9	–	982

PROPERTY	VALUE	UNIT
Transformation point Ac1	800	°C
Transformation point Ac3	900	°C
Transformation point Ar3	790	°C
Transformation point Ar1	680	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	

Designations across standards

5 designations · 1 documented as identical

Russia / CIS 5

20Kh3MVF This grade's own name	gost
20KhN3MFA	gost
20Х3МВФ	gost
ЭИ415	gost
ЭИ579	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 20KhN3MFA

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