

MATERIAL NUMBER 1.7715 · CLASS 1.7

12HMF

Material no. 1.7715

also listed as 14MoV6-3

Chemical composition, mechanical and physical property values, and 30 standard designations from 8 regions.

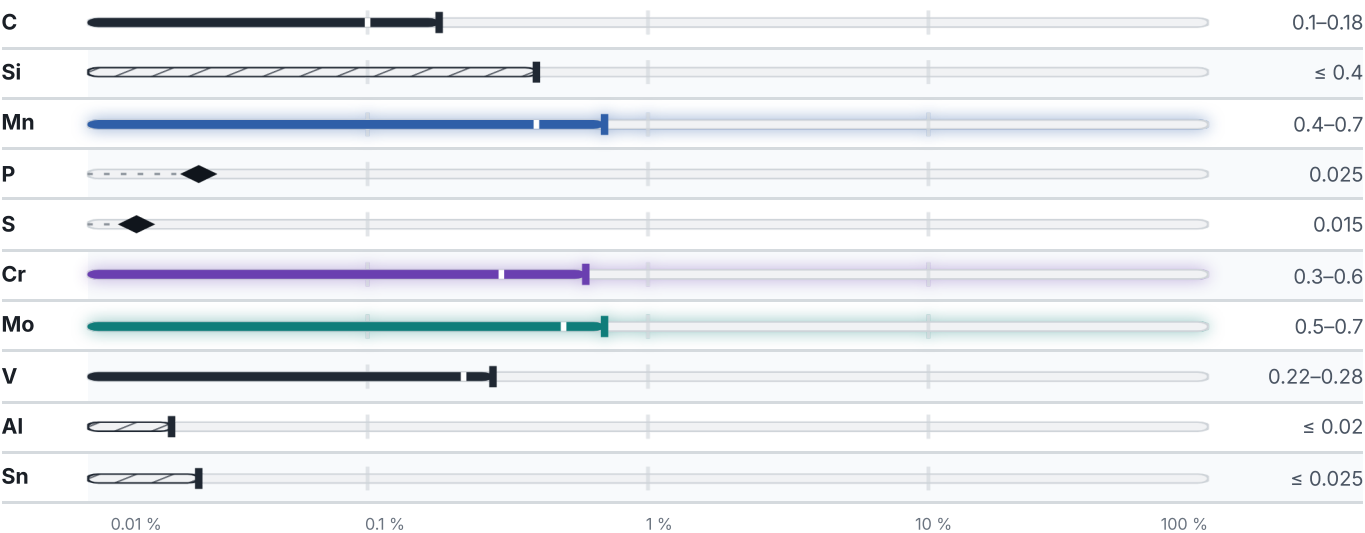
DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 30 in 8 regions	PROPERTY VALUES 16 on file
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Chemical composition

Mass fraction in %



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.

Mechanical properties

16 values across 3 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	KCU kJ/m ²	HB
Sheet, GOST 5520-79	440–640	295	21	790	–
12Kh1MF (12X1MΦ) (normalize)	–	–	–	–	123–179
12Kh1MF (12X1MΦ) (hot-rolled, annealing) , GOST 20072-74	–	–	–	–	217
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Bar, GOST 20072-74	470	255	21	55	980
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Forging	480	260	20	50	600

Physical properties

6 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	RHO_EL nΩ·m
20	7.8	198	–	–	230
100	7.78	193	12.4	44	278
200	7.75	188	13	44	343
300	7.72	183	13.6	42	430
400	7.68	175	14	40	532
500	7.64	167	14.4	37	647
600	7.6	157	14.7	35	775
700	7.57	151	14.9	32	962
800	7.54	–	14.8	28	1087
900	7.56	–	12	28	1130
PROPERTY	VALUE		UNIT		
Density	7.85		g/cm ³		
Transformation point Ac1	760		°C		
Transformation point Ac3	890		°C		
Transformation point Ar3	825		°C		
Transformation point Ar1	730		°C		

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	

Designations across standards

30 designations · 2 documented as identical

Russia / CIS		13	United Kingdom		4
120X	gost		1503-660-440		bs
12Ch1MF	gost		440		bs
12DKHN1MFL	gost		660		bs
12GS-1	gost		660-460		bs
12GSBYu-1	gost		Poland		3
12KH1	gost		12HMF		pn
12Kh1MF	gost		13HMF		pn
12Kh1MF-PV	gost		15HMF		pn
12X1MΦ	gost		Europe		2
12XMΦ	gost				
1KH2M1	gost				
ст.12X1MΦ	gost		1.7715		din-en
ЭП430	gost		14MoV6-3	This grade's own name	din-en
United States		4	Spain		2
A 405 P24	uns		13MoCrV6		une
K11591	uns	This grade's own name	F.2621		une
A 405 P24	astm		Czechia		1
K11591	astm		15128		csn
			Hungary		1
			KL 10		msz

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 12HMF

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	1.7715	Aug 20, 2026