

MATERIAL NUMBER 1.1152 · CLASS 1.1

20KHNR

Material no. 1.1152

also listed as C20E2C

Chemical composition, mechanical and physical property values, and 41 standard designations from 4 regions.

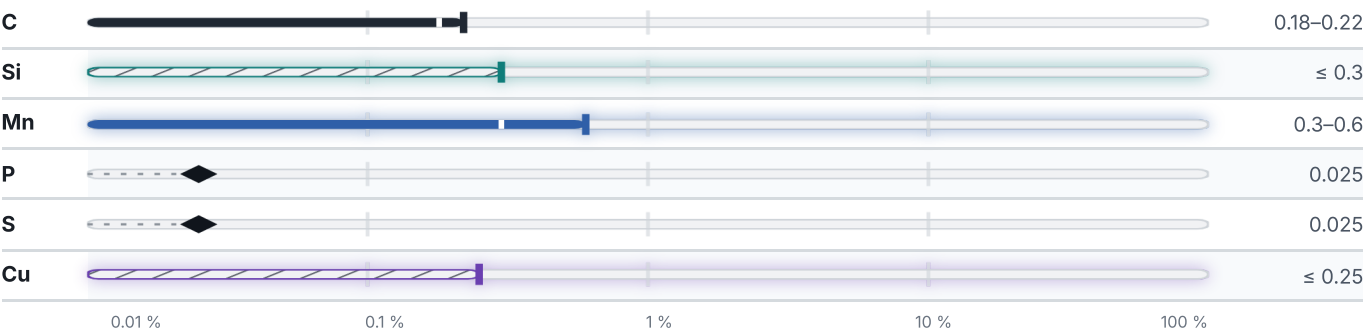
DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 41 in 4 regions	PROPERTY VALUES 11 on file
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Chemical composition

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, Cr, Mo.

Mechanical properties

9 values across 2 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Normalizing 1100°C,Drawing 650°C, 6h	1076	958	13.3	46.6	150
CONDITION · DIMENSION	RM N/mm ²	A5 %	Z %	KCU kJ/m ²	
Bar	900	15	55	400	

Physical properties

5 values

CONDITION · DIMENSION	RHO g/cm³	E GPa	LAMBDA W/(m·K)
20	7.9	217	–
100	–	211	41
200	–	205	46.1
300	–	196	48.2
400	–	188	50.2
500	–	180	52.8
600	–	167	54.4
700	–	152	56.1
PROPERTY		VALUE	UNIT
Density		7.85	g/cm³
Transformation point Ac1		810	°C
Transformation point Ac3		950	°C
Transformation point Ar3		800	°C
Transformation point Ar1		690	°C

Designations across standards

41 designations · 4 documented as identical

Russia / CIS		35	Europe		3
20		gost	20kp		din-en
20-PV		gost	C20E2C	This grade's own name	din-en
20A		gost	Cq 22	This grade's own name	din-en
20DKHL		gost	United States2		
20F		gost	G10230	This grade's own name	uns
20FA		gost	1023	This grade's own name	aisi-sae
20FL		gost	Japan1		
20FTL		gost	S22C		jis
20FYu		gost			
20GNMFL		gost			
20GNMYuL		gost			
20GS		gost			
20KHF		gost			
20KhFA		gost			
20KHGNR		gost			
20KHGNTR		gost			
20KHGR		gost			
20KHGSFL		gost			
20KHGSNDML		gost			
20KHGSA		gost			
20KhMFBR		gost			
20KHML		gost			
20KHN		gost			
20KHNR		gost			
20kp		gost			
20ps		gost			
20YuA		gost			
20YuCh		gost			
20YuChA		gost			
PA-ZhKh20KB		gost			
SHKH20SG		gost			
Sv-20GSTYuA		gost			
AS20KHGNM		gost			
ATS20KHGNM		gost			
X20K5		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 20KHNR

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	1.1152	Aug 20, 2026