

MATERIAL NUMBER 1.0040 · CLASS 1.0

4KHMFS

Material no. 1.0040

also listed as Ust 42-2

Chemical composition, mechanical and physical property values, and 19 standard designations from 9 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 19 in 9 regions	PROPERTY VALUES 14 on file
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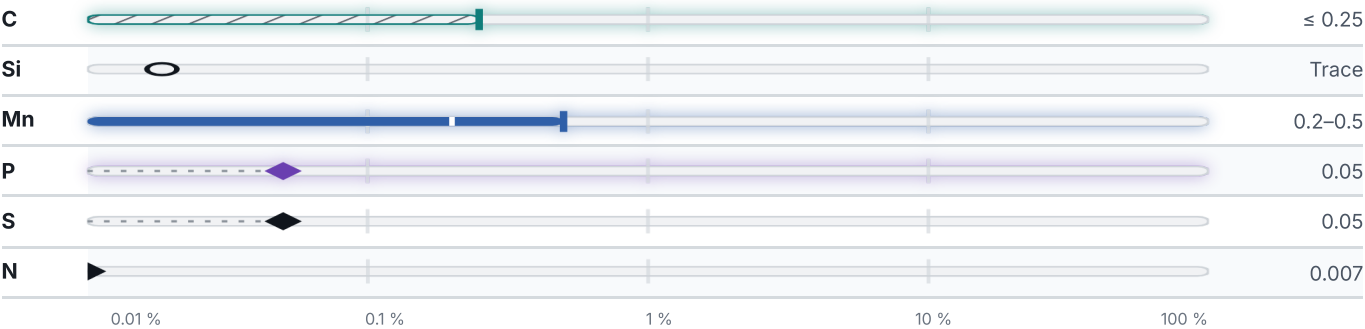
Chemical composition

Mass fraction in %

What this alloy is



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: Si, Ni, Cr, Mo.

Mechanical properties

9 values across 1 conditions

AS-DELIVERED STATE	RM N/mm ²	RE N/mm ²	A5 %
to 20	400–510	255	25
20 - 40	400–510	245	24
40 - 100	400–510	235	22

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	
20	7.85	

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³
Transformation point Ac1	735	°C
Transformation point Ac3	840	°C
Transformation point Ar3	825	°C
Transformation point Ar1	680	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	
Flake sensitivity	not predisposed	
Temper brittleness	not predisposed	

Designations across standards

19 designations · 1 documented as identical

Russia / CIS	9	Austria	2
07Kh21N9S2ML	gost	St42RG	onorm
07X21H9C2MЛ	gost	St42RGT	onorm
40XCMΦ	gost		
4KHMFS	gost	Europe	1
PZhV4	gost	Ust 42-2 This grade's own name	din-en
VSt4kp	gost		
VSt4ps	gost	United States	1
БНЛ-4	gost	1020	aisi-sae
BCт4кп	gost		
		France	1
United Kingdom	2	E25-2	afnor
43/25HR	bs		
43/25HS	bs		

Japan	1	Poland	1
SS41	jis	St3SX	pn
Czechia	1		
11423	csn		

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 4KHMFS
Quotation, availability, mill certificate or a technical question — directly on the material page.

[Start an enquiry](#)

DATASHEET ONLINE View the material page	GRADE SEARCH Search all grades	MATERIAL NO. 1.0040	ISSUED Aug 20, 2026
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