

MATERIAL NUMBER 1.0040 · CLASS 1.0

1.0040

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

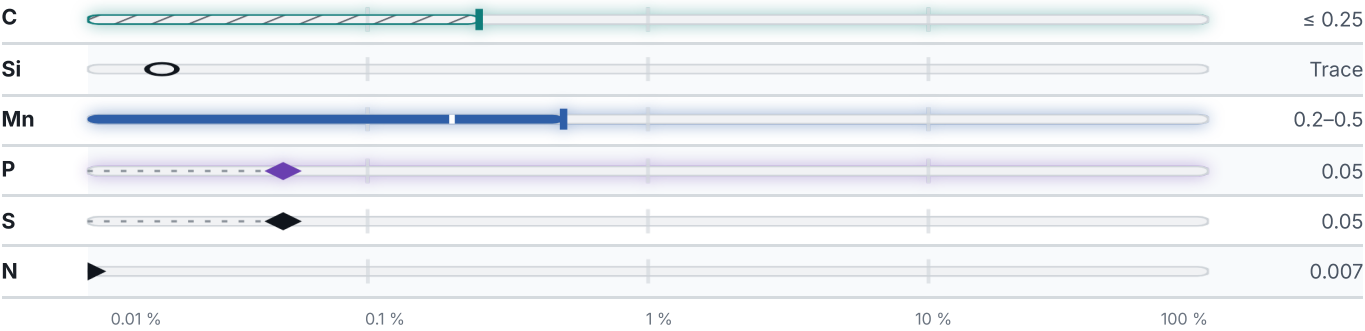
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 99.3 % ● Mn — 0.4 % ● C — 0.3 % ● P — 0.1 % ● Traces & impurities · 0.1 %

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

AS-DELIVERED STATE	RM N/mm ²	RE N/mm ²	A5 %
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	Europe		1
07Kh21N9S2ML	gost		Ust 42-2	This grade's own name	din-en
07X21H9C2MЛ	gost		United States		
40XCMΦ	gost		1020		
4KHMFS	gost		France		
PZhV4	gost		E25-2		
VSt4kp	gost		Japan		
VSt4ps	gost		SS41		
BHЛ-4	gost		Czechia		
BCт4кп	gost		11423		
United Kingdom		2	Poland		
43/25HR	bs		St3SX		
43/25HS	bs				
Austria		2			
St42RG	onorm				
St42RGT	onorm				

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 1.0040
Quotation, availability, mill certificate or a technical question — directly on the material page.

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MATERIAL NO.
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ISSUED
Aug 20, 2026