

MATERIAL NUMBER 1.1189 · CLASS 1.1

XC42H1u

Material no. 1.1189

also listed as C40R

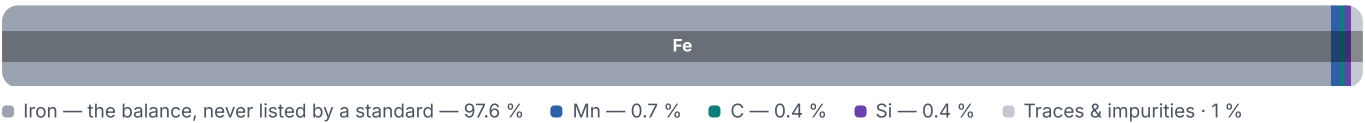
Chemical composition, mechanical and physical property values, and 14 standard designations from 8 regions.

DENSITY 7.85 g/cm³	OTHER DESIGNATIONS 14 in 8 regions	PROPERTY VALUES 9 on file
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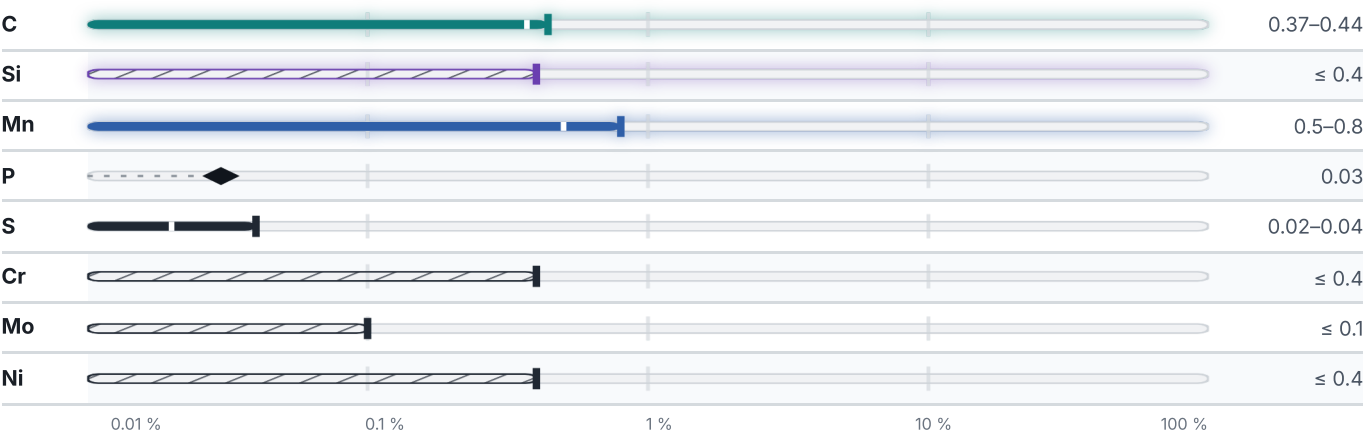
Chemical composition

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

computed from composition · °C

PREDICTED AE3 774 °C	PREDICTED AE1 724 °C	PREDICTED ACM 603 °C	PREDICTED BS 560 °C
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Mechanical properties

17 values across 3 conditions

COLD DRAWN / HARD	RM N/mm ²	A %
5 – 10	700–1000	6
10 – 16	650–980	7
16 – 40	620–920	8
40 – 63	590–840	9
63 – 100	550–820	9
NORMALIZED	RM N/mm ²	A %
≤ 16	580	16
16 – 100	550	17
100 – 250	530	17
AS ROLLED AND TURNED	HB	
As rolled and turned	163–211	

Physical properties

1 values

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³

Designations across standards

14 designations · 4 documented as identical

France		3	United Kingdom		2
XC 42	afnor		060A40		bs
XC38H1	afnor		080A40		bs
XC42H1u	afnor		Russia / CIS		2
Europe		2	40		gost
C40R	This grade's own name	din-en	ct.40		gost
Cm 40	This grade's own name	din-en	International		1
United States		2	C40M2		iso
G10400	This grade's own name	uns	Japan		1
1040	This grade's own name	aisi-sae	S 40C		jis
			Italy		1
			C40		uni

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 XC42H1u
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

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ISSUED
Aug 20, 2026