

MATERIAL NUMBER 1.4016 · CLASS 1.4

17040

Material no. 1.4016

also listed as X6Cr17

Chemical composition, mechanical and physical property values, and 68 standard designations from 17 regions.

DENSITY

7.7 g/cm³

OTHER DESIGNATIONS

68 in 17 regions

PROPERTY VALUES

9 on file

Chemical composition

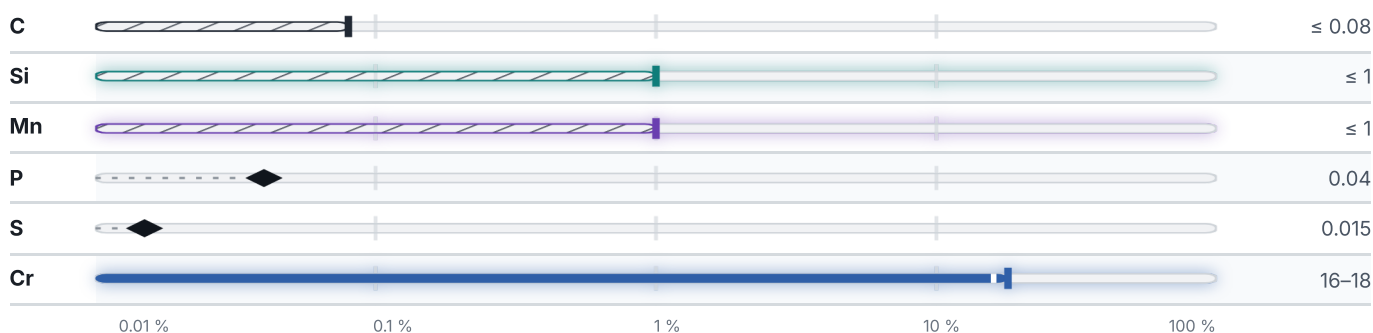
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 80.9 % ● Cr — 17 % ● Si — 1 % ● Mn — 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: Ni, Mo.

Mechanical properties

25 values across 7 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	Z %	HB	HRB	HV
Plate/Sheet Hot-rolled	420	205	22	–	–	–	–
Bars/Rods	450	205	22	50	–	–	–
Hot-rolled	–	–	–	–	183	88	200
CONDITION · DIMENSION		RM N/mm ²	A5 %		HB		
Pipe cooling strain, GOST 9941-81		441	17		–		
Pipe hot strain, GOST 9940-81		441	17		–		
12KH17 (12X17) (annealing) , Bar GOST 5949-75		–	–		126–197		
COLD ROLLED							HV
Cold rolled							200–300
SOFT ANNEALED							HB
Soft annealed							200
CONDITION · DIMENSION		RM N/mm ²	RE N/mm ²		A5 %	Z %	
Bar, GOST 5949-75		390	245		20	50	
CONDITION · DIMENSION				RM N/mm ²	A5 %		
Sheet trick, GOST 7350-77				440	18		
CONDITION · DIMENSION				RM N/mm ²	A5 %		
Sheet thin, GOST 5582-75				490	20		

Physical properties

3 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ^{^-6} /K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	7.72	232	–	–	–	560
100	–	227	10.4	24	462	610
200	–	219	10.5	24	–	680
300	–	211	10.8	25	–	770
400	–	201	11.2	26	–	850
500	–	192	11.4	26	–	950

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
600	–	182	11.6	–	–	1030
700	–	165	11.9	–	–	1110
800	–	148	12.1	–	–	1150
900	–	–	–	–	–	1160

PROPERTY	VALUE	UNIT
Density	7.7	g/cm³

Technological properties

PROPERTY	VALUE	UNIT
Weldability	hard weldability.	
Temper brittleness	predisposed	

Heat treatment

2 regimes

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—
source joins the operations with (or)		
Quenching	Temperature not stated	—
Solution annealing	Temperature not stated	—

Designations across standards

68 designations · 2 documented as identical

United States		24	Russia / CIS		6
S43000		uns	12Ch17		gost
430		aisi-sae	12KH17		gost
51430		aisi-sae	12X17		gost
S43000		aisi-sae	12X17		gost
A1012		astm	cr.12X17		gost
A182		astm	X17		gost
A240		astm			
A268		astm	France		4
A276		astm	430F00		afnor
A314		astm	Z10CF17		afnor
A473		astm	Z6Cr17		afnor
A479		astm	Z8C17		afnor
A484		astm			
A493		astm	Spain		4
A511		astm	F.310.D		une
A554		astm	F.3113		une
A580		astm	F.3113-X8Cr17		une
A815		astm	X6Cr17		une
F2215		astm			
F2281		astm	China		3
F593		astm	1Cr15		gb
F594		astm	1Cr17		gb
F738		astm	ML1Cr17		gb
F836		astm			
			Europe		2
United Kingdom		6	1.4016		din-en
17Cr		bs	X6Cr17	This grade's own name	din-en
430S1		bs			
430S15		bs	United States / Aerospace		2
430S17		bs	5503		ams
430S18		bs	5627		ams
EN 60		bs			
			Italy		2
Japan		6	X6Cr17		uni
SUS 430		jis	X8Cr17		uni
SUS 430TKA		jis			
SUS 430TKC		jis	Sweden		2
SUS 430TP		jis	2320		ss
SUS430TB		jis	SIS 2320	This grade's own name	ss
SUS430TK		jis			
			Czechia		2
			17040		csn
			17041		csn
			Slovakia		1
			17 040		stn

Brazil	1	former Yugoslavia	1
430	abnt	Č.4174	jus
Serbia	1	Poland	1
Č.4174	srps	H17	pn

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 17040
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. 1.4016	ISSUED Sep 8, 2026
---	--	-------------------------------	------------------------------