

MATERIAL NUMBER 1.4000 · CLASS 1.4

410F90

Material no. 1.4000

also listed as X6Cr13

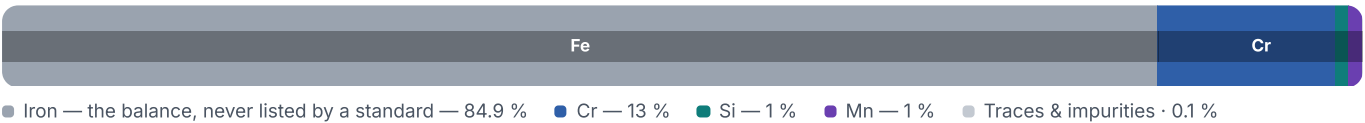
Chemical composition, mechanical and physical property values, and 54 standard designations from 15 regions.

DENSITY 7.7 g/cm³	OTHER DESIGNATIONS 54 in 15 regions	PROPERTY VALUES 9 on file
-----------------------------	---	-------------------------------------

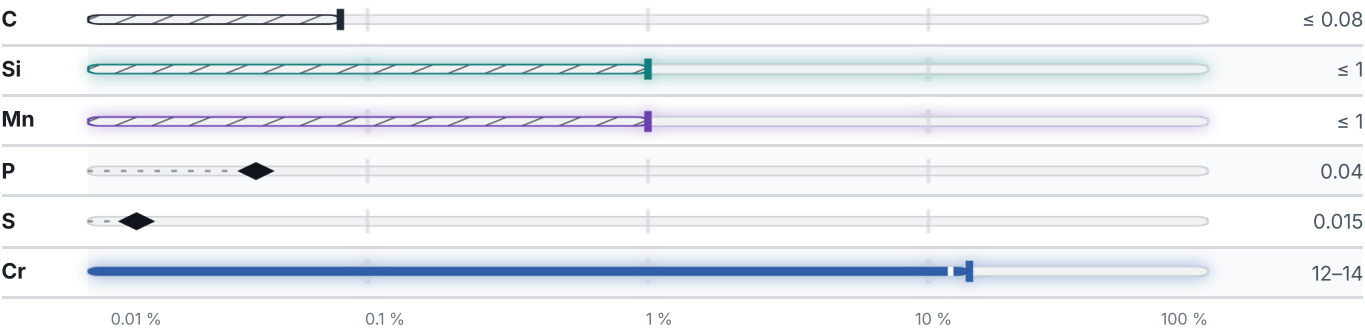
Chemical composition

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: Ni, Mo.

Mechanical properties

42 values across 8 conditions

CONDITION · DIMENSION	RM N/mm ²		A5 %		HB			
Pipe cooling strain, GOST 9941-81	372		22		–			
Pipe hot strain, GOST 9940-81	372		22		–			
08KH13 (08X13) (quenching, tempering) , GOST 25054-81	–		–		187–229			
08KH13 (08X13) (annealing) , Bar GOST 5949-75	–		–		116–179			
08KH13 (08X13) (normalize, tempering) , Bar GOST 18968-73	–		–		187–217			
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	Z %	AK J/cm ²	HB	HRB	HV
Plate/Sheet Hot-rolled	440	205	20	–	–	–	–	–
Bars/Rods	590	390	25	55	147	–	–	–
Hot-rolled	–	–	–	–	–	201	93	210
CONDITION · DIMENSION	RM N/mm ²		RE N/mm ²		A5 %		HB	
Sheet trick, GOST 7350-77	650		250		15		–	
Sheet thin, GOST 5582-75	410		–		21		–	
SOFT ANNEALED								HB
Soft annealed								200
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²			
Bar, GOST 5949-75	590	410	20	60	980			
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²			
Bar, GOST 18968-73	580	410	20	60	980			
QUENCHING AND DRAWING	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²			
to 600	539	392	14–17	35–50	490–830			
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²			
Sheet trick, GOST 7350-77	420	295	23					

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	7.76	217	–	–	–	506
100	7.74	212	10.5	28	462	584
200	7.71	206	11.1	28	–	679
300	–	198	11.4	28	–	769
400	–	189	11.8	28	–	854
500	–	180	12.1	27	–	938
600	–	–	12.3	26	–	1021
700	–	–	12.5	26	–	1103
800	–	–	12.8	25	–	–

PROPERTY	VALUE	UNIT
Density	7.7	g/cm ³

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	
Temper brittleness	predisposed	

Designations across standards

54 designations · 5 documented as identical

United States		17	Russia / CIS		6
S40300	This grade's own name	uns	08Ch13		gost
S41008	This grade's own name	uns	08KH13		gost
403	This grade's own name	aisi-sae	08X13		gost
4105		aisi-sae	08X13		gost
410S	This grade's own name	aisi-sae	0X13		gost
429		aisi-sae	ЭИ496		gost
51403		aisi-sae			
S40300		aisi-sae	Europe		5
S40500		aisi-sae	1.4000		din-en
S41008		aisi-sae	Type403		din-en
Type403		aisi-sae	X6Cr13	This grade's own name	din-en
A176		astm	X7Cr13		din-en
A276		astm	X7Cr14		din-en
A314		astm			
A479		astm			
A511		astm			
A580		astm			

France	5	Italy	2
410F90	afnor	X6CM3	uni
Z6C13	afnor	X6Cr13	uni
Z8C113FF	afnor		
Z8C12	afnor	Poland	2
Z8C13FF	afnor	OH13	pn
		OH13	pn
Japan	5	United Kingdom	1
SUS 403	jis	403S17	bs
SUS 403FB	jis		
SUS410	jis	United States / Aerospace	1
SUS410S	jis	5614	ams
SUS429	jis		
Spain	3	Sweden	1
F.3110	une	2301	ss
X6CM3	une		
X6Cr13	une	Czechia	1
		17020	csn
China	3	Slovakia	1
0Cr13	gb	17 020	stn
1Cr12	gb		
0Cr13	gb	Serbia	1
		Č.4170	srps

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 410F90

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	1.4000	Aug 20, 2026