

MATERIAL NUMBER 1.4301 · CLASS 1.4

F.3451

Material no. 1.4301

also listed as X 5 CrNi 18 9

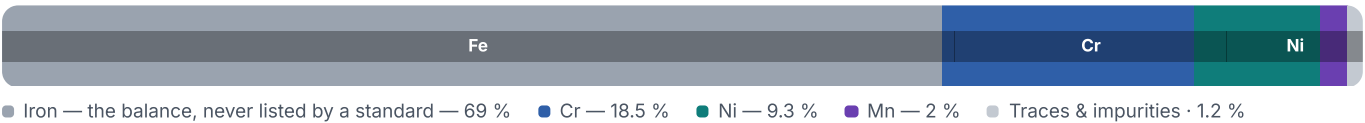
Chemical composition, mechanical and physical property values, and 170 standard designations from 22 regions.

DENSITY 7.9 g/cm³	OTHER DESIGNATIONS 170 in 22 regions	PROPERTY VALUES 10 on file
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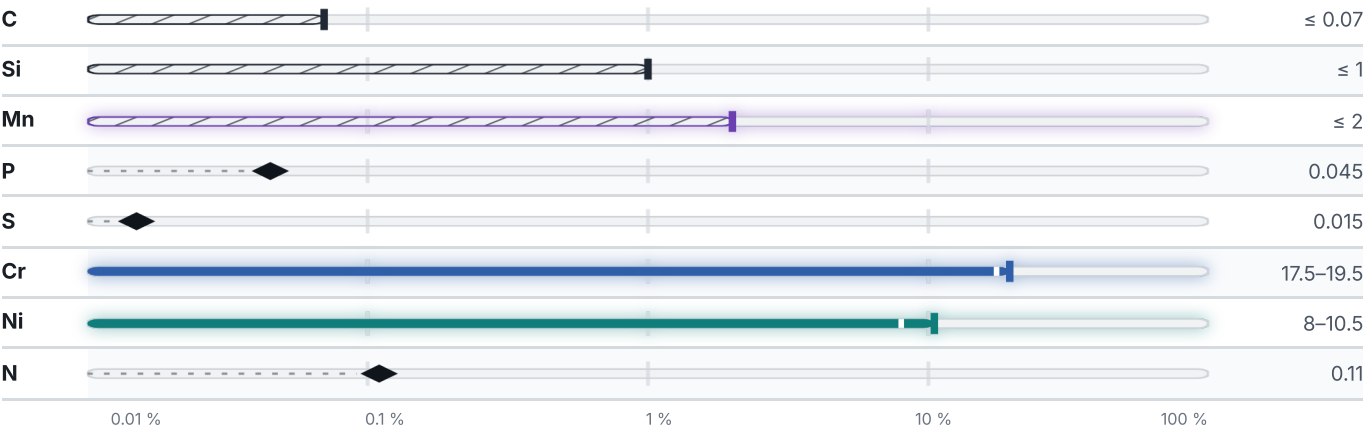
Chemical composition

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: Mo.

Mechanical properties

37 values across 9 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	HB	
Pipe cooling strain, GOST 9941-81	529	–	37	–	–	
Pipe hot strain, GOST 9940-81	510	–	40	–	–	
Bar cold-worked , GOST 18907-73	880–930	–	–	–	–	
Bar, GOST 18907-73	640–780	–	20	–	–	
Forging, GOST 25054-81	470	196	38–40	45–50	–	
Sheet thin, GOST 5582-75	740–930	–	25	–	–	
Sheet thin cold-worked , GOST 5582-75	930	–	10	–	–	
08KH18N10 (08X18H10) , Forging GOST 25054-81	–	–	–	–	170	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	HB	HRB	HV
Plate/Sheet Hot-rolled	520	205	40	–	–	–
Hot-rolled	–	–	–	187	90	200
COLD ROLLED						HV
Cold rolled						220–450
SOFT ANNEALED						HB
Soft annealed						215
SOLUTION ANNEALED						HB
Solution annealed						200
QUENCHING 1020 - 1100°C	RM N/mm ²	RE N/mm ²	A5 %	Z %		
Ø 60	470	196	40	55		
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %			
Sheet trick, GOST 7350-77	510	205	43			
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %			
Sheet thin, GOST 5582-75	510	185	45			
CONDITION · DIMENSION	RM N/mm ²	A5 %				
Sheet thin, GOST 4986-79	530	20–40				

Physical properties

2 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	7.85	196	–	17	–	800
100	–	–	16	–	504	–
200	–	–	17	–	–	–
300	–	–	17	–	–	–
400	–	–	18	–	–	–
500	–	–	18	–	–	–
PROPERTY	VALUE		UNIT			
Density	7.9		g/cm ³			

Technological properties

PROPERTY	VALUE	UNIT
Weldability	without limitations.	

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
source joins the operations with (or)		
Quenching	Temperature not stated	—
Solution annealing	1010–1150 °C	Water
source joins the operations with (or)		
Quenching	Temperature not stated	—
Solution annealing	Temperature not stated	—
Solution annealing	Temperature not stated	—

Designations across standards

170 designations · 9 documented as identical

United States	75	A493	astm
S30300	uns	A511	astm
S30400 This grade's own name	uns	A554	astm
S30403	uns	A580	astm
S30451 This grade's own name	uns	A593	astm
S30453	uns	A632	astm
S30500	uns	A666	astm
303	aisi-sae	A688	astm
30304	aisi-sae	A738	astm
304 This grade's own name	aisi-sae	A774	astm
304H	aisi-sae	A793	astm
304L	aisi-sae	A813	astm
304LN	aisi-sae	A814	astm
304N This grade's own name	aisi-sae	A836	astm
305	aisi-sae	A837	astm
S30400	aisi-sae	A851	astm
A 182 Grade F304	astm	A879	astm
A 312 Grade TP304	astm	A880	astm
A 403 Grade WP304	astm	A899	astm
A 479 304 This grade's own name	astm	A908	astm
A1012	astm	A924	astm
A1022	astm	A943	astm
A1049	astm	A965	astm
A182	astm	A988	astm
A182 F 304 This grade's own name	astm	F1667	astm
A193	astm	F2215	astm
A194	astm	TP304	astm
A213	astm	TP304L	astm
A240	astm		
A249	astm		
A269	astm		
A270	astm		
A276	astm		
A312	astm		
A313	astm		
A314	astm		
A320	astm		
A336	astm		
A358	astm		
A368	astm		
A376	astm		
A403	astm		
A409	astm		
A430	astm		
A473	astm		
A478	astm		
A479	astm		
A492	astm		
		United Kingdom	18
		302 S 17	bs
		304 S 40	bs
		304S11	bs
		304S15	bs
		304S15 EN 58E	bs
		304S16	bs
		304S17	bs
		304S18	bs
		304S25	bs
		304S31	bs
		801	bs
		En 58 E	bs
		LW 13	bs
		LW 15	bs
		LW 21	bs
		LWCF 13	bs
		LWCF 15	bs
		LWCF 21	bs

United States / Aerospace		17	Russia / CIS		8
5501	ams		07Ch18N10		gost
5511	ams		08Ch18N10		gost
5513	ams		08KH18N10		gost
5560	ams		08X18H10		gost
5563	ams		08X18H10		gost
5564	ams		0X18H10		gost
5565	ams		PROKh18N10		gost
5566	ams		ct.08X18H10		gost
5567	ams				
5639	ams		Spain		6
5697	ams		F.3451		une
5857	ams		F.3451-X5CrNi18-10		une
5868	ams		F.3504		une
5910	ams		F.3541		une
5911	ams		F.3551		une
5912	ams		X5CrNi18-10		une
5913	ams				
Japan		11	China		4
SUS 304	jis		0Cr18Ni9		gb
SUS 304-CSP	jis		0Cr19Ni9		gb
SUS 304A	jis		0Cr19Ni9N		gb
SUS 304FB	jis		0Cr18Ni9		gb
SUS 304N1	jis				
SUS 304TB	jis		Europe		3
SUS 304TBS	jis		1.4301		din-en
SUS 304TKA	jis		X 5 CrNi 18 9 This grade's own name		din-en
SUS 304TKC	jis		X5CrNi18-10 This grade's own name		din-en
SUS 304TP	jis				
SUS F 304	jis		Sweden		3
			2332		ss
			2333		ss
			2333-02		ss
France		10			
304F00	afnor		Italy		2
AFNOT Z7CN18-09 This grade's own name	afnor				
X5CrNi18-10	afnor		X3CrNi18-10		uni
Z4CN19-10FF	afnor		X5CrNi18-10		uni
Z5CN17-08	afnor				
Z5CN18-09	afnor		Poland		2
Z5CN18-10	afnor		00H18N10		pn
Z5CN19-09	afnor		0H18N9		pn
Z6CN18.09	afnor				
Z7CN18-09	afnor		Austria		2
			X5CrNi18-10OS		onorm
			X5CrNi18-10S		onorm
			International		1
			X5CrNi18-10		iso

Czechia	1	former Yugoslavia	1
17240	csn	Č.4580	jus
Slovakia	1	Australia / New Zealand	1
17 240	stn	304	as-nzs
Brazil	1	Finland	1
304	abnt	725	sfs
Serbia	1	South Korea	1
Č.4580	srps	SUS304	ks

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 F.3451

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	1.4301	Sep 8, 2026