

MATERIAL NUMBER 1.4435 · CLASS 1.4

TP316L

Material no. 1.4435

also listed as X2CrNiMo18-14-3

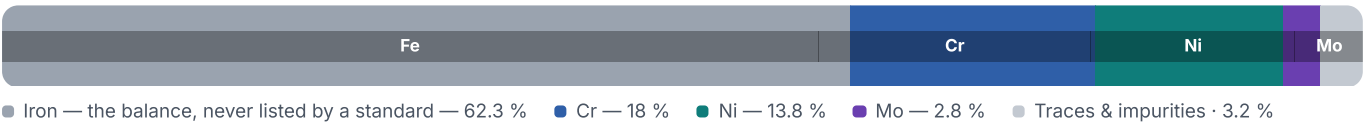
Chemical composition, mechanical and physical property values, and 99 standard designations from 19 regions.

DENSITY 8 g/cm³	OTHER DESIGNATIONS 99 in 19 regions	PROPERTY VALUES 11 on file
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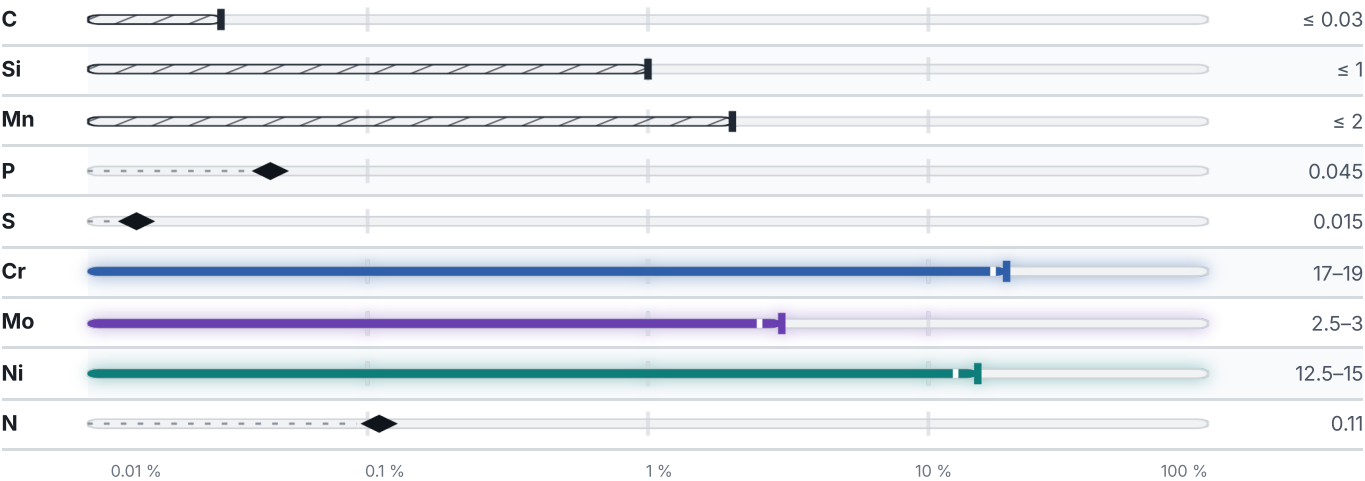
Chemical composition

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

This grade's composition falls outside the published model's validated range (a low-alloy composition window), so no transformation temperature is predicted here.

Mechanical properties

20 values across 7 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	HB	
Casting	390	175	33	–	
Solution heat treatment	–	–	–	183	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	HB
Forging, GOST 25054-81	470	176	35–40	45–55	–
03KH17N14M3 (03X17H14M3) , Forging GOST 25054-81	–	–	–	–	179
SOFT ANNEALED					HB
Soft annealed					215
SOLUTION ANNEALED					HB
Solution annealed					200
QUENCHING 1070 - 1100°C,COOLING WATER	RM N/mm ²	RE N/mm ²	A5 %		
Ø 60	490	196	40		
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %		
Sheet trick, GOST 7350-77	490	196	40		
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %		
Sheet thin, GOST 5582-75	490	196	40		

Physical properties

2 values

CONDITION · DIMENSION	RHO g/cm ³	
20	8	
PROPERTY	VALUE	UNIT
Density	8	g/cm ³

Technological properties

PROPERTY	VALUE	UNIT
Weldability	without limitations.	

Designations across standards

99 designations · 6 documented as identical

United States	52	F738	astm		
S31603	This grade's own name	uns	F836	astm	
S31673		uns	F837	astm	
30316L		aisi-sae	F879	astm	
316L	This grade's own name	aisi-sae	SA-240TP316L	astm	
J92800		aisi-sae			
S31603		aisi-sae	United Kingdom	8	
TP316L		aisi-sae			
316LVM		astm	316 S 11	bs	
A 182 Grade F316L		astm	316S13	bs	
A 312 Grade TP316L		astm	316S13 LW 22	bs	
A 403 Grade WP316LN		astm	316S14	bs	
A1022		astm	316S31	This grade's own name	bs
A1049		astm	845 B	bs	
A182		astm	LW 22	bs	
A213		astm	LWCF 22	bs	
A240		astm			
A249		astm	Japan	6	
A269		astm			
A270		astm	SCS16	jis	
A276		astm	SUS 316L	jis	
A312		astm	SUS 316LFB	jis	
A314		astm	SUS 316LTBS	jis	
A336		astm	SUS 316LTP	jis	
A358		astm	SUS F 316L	jis	
A403		astm			
A409		astm	Russia / CIS	5	
A473		astm			
A478		astm	03Ch17N14M3	This grade's own name	gost
A479		astm	03KH17N14M3	gost	
A493		astm	03X17H14M2	gost	
A511		astm	03X17H14M3	gost	
A554		astm	cr.03X17H14M3	gost	
A580		astm			
A632		astm	France	4	
A666		astm			
A688		astm	Z2CND17.12	afnor	
A774		astm	Z2CND17.13	afnor	
A778		astm	Z3CND17-12-03	afnor	
A793		astm	Z3CND18.14.03	afnor	
A813		astm			
A814		astm	Europe	3	
A943		astm			
A965		astm	1.4435	din-en	
A988		astm	TP316L	din-en	
F2281		astm	X2CrNiMo18-14-3	This grade's own name	din-en
F593		astm			
F594		astm	United States / Aerospace	3	
			5507	ams	
			5584	ams	
			5653	ams	

China	3	Sweden	1
00Cr17Ni14Mo2	gb	2353	ss
00Cr17Ni14Mo3	gb		
OCr27Ni12Mo3	gb	Poland	1
		00H17N14M2	pn
Italy	3	Slovakia	1
X2CrNiMo 18-14-3 X2CrNiMo1713KG	uni	17 350	stn
X2CrNiMo17-13	uni		
X2CrNiMo1712	uni	Brazil	1
		316 L	abnt
Spain	2	Serbia	1
F.3533 This grade's own name	une	Č.4570.4	srps
F.3533-Z 2 CrNiMo 17-12-03	une		
Czechia	2	former Yugoslavia	1
17349	csn	Č.45704	jus
17350	csn		
International	1	Finland	1
Type19a	iso	752	sfs

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 TP316L

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	1.4435	Aug 20, 2026