

MATERIAL NUMBER 1.4306 · CLASS 1.4

304S12

Material no. 1.4306

also listed as X2CrNi19-11

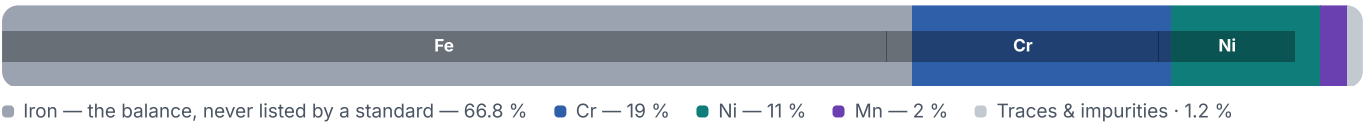
Chemical composition, mechanical and physical property values, and 137 standard designations from 17 regions.

DENSITY 7.9 g/cm³	OTHER DESIGNATIONS 137 in 17 regions	PROPERTY VALUES 13 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

21 values across 7 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	HB	
Casting	390	185	33	–	
Solution heat treatment	–	–	–	183	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	HB
Forging, GOST 25054-81	441	176	40	45–55	–
03KH18N11 (03X18H11) , Forging GOST 25054-81	–	–	–	–	179
SOFT ANNEALED					HB
Soft annealed					215
QUENCHING 1020 - 1100°C,COOLING AIR	RM N/mm ²	RE N/mm ²	A5 %	Z %	
to Ø 60	440	155	40	55	
SOLUTION ANNEALED					HB
Solution annealed					200
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

5 values

PROPERTY	VALUE	UNIT
Density	7.9	g/cm ³
Thermal expansion coefficient	16.8	10 ⁻⁶ /K
Thermal conductivity	15	W/(m·K)
Specific heat capacity	500	J/(kg·K)
Electrical resistivity	730	nΩ·m

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
Solution annealing	Temperature not stated	—
source joins the operations with (or)		
Quenching	Temperature not stated	—
Solution annealing	1050–1100 °C	Water
source joins the operations with (or)		
Quenching	Temperature not stated	—
Solution annealing	Temperature not stated	—

Designations across standards

137 designations · 4 documented as identical

United States	61	A924	astm
S30300	uns	A943	astm
S30400	uns	A965	astm
S30403 This grade's own name	uns	A988	astm
S30453	uns	F2281	astm
S30500	uns	F593	astm
303	aisi-sae	F594	astm
30304L	aisi-sae	F738	astm
304	aisi-sae	F836	astm
304L This grade's own name	aisi-sae	F837	astm
304LN	aisi-sae	F879	astm
305	aisi-sae	F880	astm
S30403	aisi-sae	TP304	astm
A 182 Grade F304L	astm	TP304L	astm
A 276	astm	United States / Aerospace	
A 312 Grade TP304L	astm		16
A 403 Grade WP304L	astm	5370	ams
A 479	astm	5371	ams
A 484	astm	5501	ams
A1022	astm	5511	ams
A1040	astm	5513	ams
A182	astm	5560	ams
A213	astm	5563	ams
A240	astm	5564	ams
A249	astm	5565	ams
A269	astm	5566	ams
A270	astm	5567	ams
A312	astm	5569	ams
A314	astm	5575	ams
A358	astm	5584	ams
A368	astm	5639	ams
A403	astm	5647	ams
A409	astm	United Kingdom	
A473	astm		12
A478	astm	304C12	bs
A493	astm	304S11	bs
A511	astm	304S12	bs
A554	astm	304S62	bs
A580	astm	305 S 11	bs
A632	astm	C12	bs
A666	astm	LW 14	bs
A688	astm	LW20	bs
A774	astm	LWCF 14	bs
A778	astm	LWCF20	bs
A793	astm	S.536	bs
A813	astm	T.74	bs
A814	astm		
A851	astm		

France	11	Europe	3
304F10	afnor	1.4306	din-en
Z1CN18-12	afnor	X2CrNi189	din-en
Z1CN18-19	afnor	X2CrNi19-11 This grade's own name	din-en
Z2CN18.09	afnor		
Z2CN18.10	afnor	China	3
Z2CrNi1810	afnor	00Cr19Ni10	gb
Z3CN18-10	afnor	00Cr19Ni11	gb
Z3CN18-11	afnor	OCr19Ni10	gb
Z3CN19-10M	afnor		
Z3CN19-11	afnor	Sweden	3
Z3CN19.10	afnor	2333	ss
		2352	ss
		SIS 2352 This grade's own name	ss
Japan	8	Italy	2
SCS19	jis	X2CrNi18.11	uni
SUS 304L	jis	X3CrNi18-11	uni
SUS 304LFB	jis		
SUS 304LTB	jis	Poland	2
SUS 304LTBS	jis	00H18N10	pn
SUS 304LTP	jis	0H18N9	pn
SUS F 304L	jis		
SUS304	jis		
Russia / CIS	7	Czechia	1
000X18H11	gost	17249	csn
03Ch18N11	gost		
03Ch19N11	gost	Slovakia	1
03KH18N11	gost	17 249	stn
03X18H11	gost		
03X18H11	gost	Brazil	1
04Ch18N10	gost	304 L	abnt
Spain	4	Austria	1
F.310.G	une	X2CrNi19-11KKW	onorm
F.3503	une		
F.3503-X2CrNi19-10	une	Finland	1
X2CrNi1810	une	720	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 304S12

Quotation, availability, mill certificate or a technical question — directly on the material page.

[Start an enquiry](#)

DATASHEET ONLINE

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GRADE SEARCH

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MATERIAL NO.

1.4306

ISSUED

Aug 20, 2026