

MATERIAL NUMBER 1.4303 · CLASS 1.4

Z8CN18-12

Material no. 1.4303

also listed as X 5 CrNi 18 12

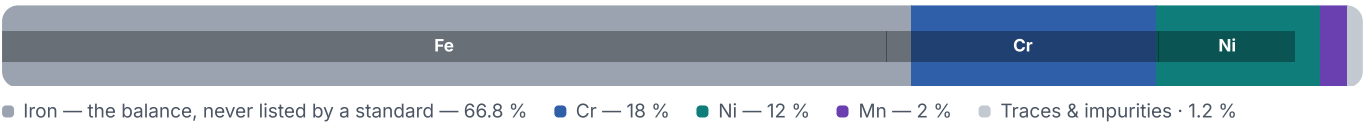
Chemical composition, mechanical and physical property values, and 84 standard designations from 13 regions.

DENSITY 7.9 g/cm³	OTHER DESIGNATIONS 84 in 13 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

22 values across 6 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A %	HB	HRB	HV
Plate/Sheet Hot-rolled	480	175	40	–	–	–
Hot-rolled	–	–	–	187	90	200
CONDITION · DIMENSION			RM N/mm ²	A5 %		
Pipe hot strain, GOST 9940-81			529	40		
Pipe cooling strain, GOST 9941-81			549	35		
SOFT ANNEALED				HB		
Soft annealed				215		
CONDITION · DIMENSION		RM N/mm ²	RE N/mm ²	A5 %	Z %	
Pipe		540	220	35	55	
CONDITION · DIMENSION		RM N/mm ²	RE N/mm ²	A5 %	Z %	
Bar, GOST 5949-75		540	196	40	55	
CONDITION · DIMENSION		RM N/mm ²	RE N/mm ²	A5 %	A5 %	
Sheet trick, GOST 7350-77		530	235	38		

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	7.9	205	–	15.1	–	761
100	7.86	202	16.6	16.3	460	800
200	7.82	197	17	17.6	482	865
300	7.78	190	17.2	18.7	507	930
400	7.74	181	17.5	20.4	525	982
500	7.69	173	17.9	22.2	545	1038
600	7.65	160	18.2	24.1	563	1070
700	7.6	150	18.6	25.9	579	1120
800	7.56	–	18.9	27.4	590	1155
900	7.51	–	19.3	29.1	603	1210
1000	–	–	–	30.8	616	1245

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10 ⁻⁶ /K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
1100	–	–	–	32.3	625	1275
1200	–	–	–	34.1	637	1315

PROPERTY	VALUE	UNIT
Density	7.9	g/cm³

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	

Designations across standards

84 designations · 6 documented as identical

United States		48	TP304L	astm
S30300		uns		
S30400		uns		
S30403		uns		
S30453		uns		
S30500		uns		
S30800	This grade's own name	uns		
303		aisi-sae		
30305		aisi-sae		
30308		aisi-sae		
304		aisi-sae		
304L		aisi-sae		
304LN		aisi-sae		
305		aisi-sae		
305L		aisi-sae		
308	This grade's own name	aisi-sae		
S30500		aisi-sae		
S30800		aisi-sae		
305 3008		astm		
A1012		astm		
A167		astm		
A193		astm		
A194		astm		
A240		astm		
A249		astm		
A276		astm		
A313		astm		
A314		astm		
A320		astm		
A368		astm		
A473		astm		
A478		astm		
A480		astm		
A492		astm		
A493		astm		
A511		astm		
A554		astm		
A580		astm		
F1667		astm		
F2215		astm		
F593		astm		
F594		astm		
F738		astm		
F836		astm		
F837		astm		
F879		astm		
F880		astm		
TP304		astm		
			Russia / CIS	11
			06Ch18N11	gost
			06KH18N11	gost
			06X18H11	gost
			06X18H11	gost
			0X18H11	gost
			12KH18N12BL	gost
			12KH18N12T	gost
			12X18H12	gost
			сг.06X18H11	gost
			X18H12T	gost
			ЭИ684	gost
			Europe	3
			X 5 CrNi 18 12	This grade's own name din-en
			X4CrNi18-12	This grade's own name din-en
			X6CrNi18-12	This grade's own name din-en
			France	3
			Z1CN18-12	afnor
			Z5CN18-11FF	afnor
			Z8CN18-12	afnor
			Spain	3
			F.3513	une
			F.3513-X8CrNi.18-12	une
			X8CrNi18-12	une
			United States / Aerospace	3
			5514	ams
			5685	ams
			5686	ams
			Japan	3
			SUS 305 SUS 305J1	jis
			SUS305	jis
			SUS305J1	This grade's own name jis
			Italy	3
			X7CrNi18-10	uni
			X8CrNi1812	uni
			X8CrNi19-10	uni
			United Kingdom	2
			305S17	bs
			305S19	bs

Poland	2	Sweden	1
00H18N10	pn	23 33	ss
0H18N9	pn		
China	1	former Yugoslavia	1
1Cr18Ni12	gb	Č.45702	jus

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 Z8CN18-12

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	1.4303	Aug 20, 2026