

MATERIAL NUMBER 1.4845 · CLASS 1.4

X12CrNi25-21

Material no. 1.4845

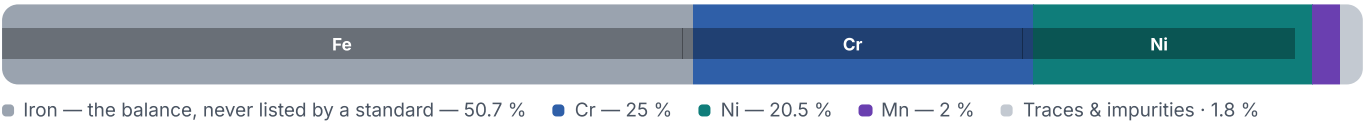
Chemical composition, mechanical and physical property values, and 91 standard designations from 20 regions.

DENSITY 7.9 g/cm³	OTHER DESIGNATIONS 91 in 20 regions	PROPERTY VALUES 10 on file
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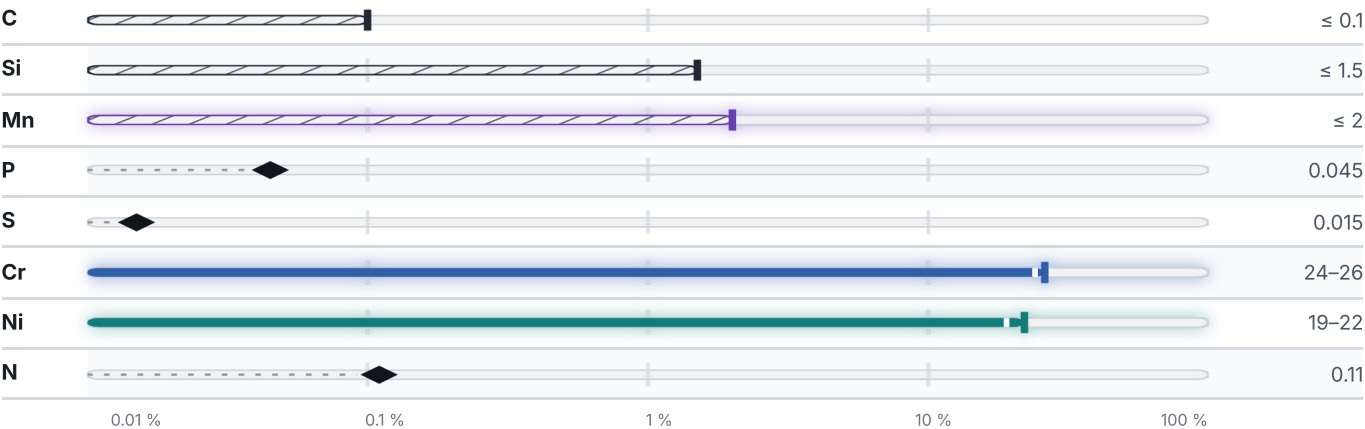
Chemical composition

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

17 values across 6 conditions

SOLUTION ANNEALED				HB
Solution annealed				192
QUENCHING 1100 - 1150°C, AIR	RM N/mm ²	RE N/mm ²	A5 %	Z %
Ø 212 × 60	500	200	35	50
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %
Bar, GOST 5949-75	490	196	35	50
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	
Sheet trick, GOST 7350-77	540	265	35	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	
Sheet thin, GOST 5582-75	510	245	35	
CONDITION · DIMENSION	RM N/mm ²		A5 %	
Sheet thin, GOST 4986-79	570		19–38	

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	204	–	13.8	–	1000
100	–	–	14.9	15.9	538	–
200	–	–	15.7	–	–	–
300	–	186	16.6	18.8	–	–
400	7.76	180	17.3	–	–	–
500	7.72	173	17.5	–	–	–
600	7.67	163	17.85	21.7	–	–
700	7.62	153	17.85	–	–	–
800	–	144	–	–	–	–
900	7.54	–	–	–	–	–
PROPERTY	VALUE		UNIT			
Density	7.9		g/cm ³			

Technological properties

PROPERTY	VALUE	UNIT
Weldability	limited weldability.	

Designations across standards

91 designations · 4 documented as identical

United States		33	Japan		8
S31008	This grade's own name	uns	SUH310		jis
30310S		aisi-sae	SUS 310S		jis
31 OS		aisi-sae	SUS 310SFB		jis
310		aisi-sae	SUS 310STP		jis
310 H		aisi-sae	SUS 310TB		jis
310S	This grade's own name	aisi-sae	SUS Y 310S		jis
314		aisi-sae	SUS310		jis
S31000		aisi-sae	SUS310STB		jis
S31008		aisi-sae			
S31009		aisi-sae	Russia / CIS		7
S31400		aisi-sae	10Ch23N18		gost
A1012		astm	10KH23N18		gost
A167		astm	20Ch23N18		gost
A176		astm	20KH23N18		gost
A213		astm	20X23H18		gost
A240		astm	X23H18		gost
A249		astm	ЭН417		gost
A264		astm			
A276		astm	United Kingdom		5
A312		astm	310S16		bs
A314		astm	310S24		bs
A358		astm	310S25		bs
A409		astm	310S31		bs
A473		astm	X8CrNi25-21		bs
A479		astm			
A484		astm	United States / Aerospace		5
A511		astm	5521		ams
A554		astm	5572		ams
A580		astm	5577		ams
A813		astm	5651		ams
A814		astm	7490		ams
A924		astm			
A943		astm	France		4
			AF Z12CN25-20		afnor
			Z12CN2520		afnor
			Z12CN26-21		afnor
			Z8CN25-20		afnor

Italy	4	Spain	2
X22CrNi25-20	uni	F.331	une
X6CrNi25-21	uni	X8CrNi25-21	une
X6CrNi25-21KG	uni		
X6CrNi2520	uni	International	2
Sweden	4	H16	iso
2361	ss	X6CrNi25-21	iso
2381	ss	Czechia	1
7RE10AE	ss	17255	csn
8RE10R	ss	Slovakia	1
Poland	4	17 255	stn
G205	pn	Hungary	1
H23N18	pn	H9	msz
H25N20S2	pn	Romania	1
H25N21	pn	12NiCr250	stas
Europe	3	Australia / New Zealand	1
1.4845	din-en	310S	as-nzs
X12CrNi25-21 This grade's own name	din-en	Bulgaria	1
X8CrNi25-21 This grade's own name	din-en	Ch23N18	bds
China	3	South Korea	1
0Cr25Ni20	gb	STS310S	ks
1Cr25Ni20Si2	gb		
0Cr25Ni20	gb		

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 X12CrNi25-21

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	1.4845	Aug 20, 2026