

MATERIAL NUMBER 1.4550 · CLASS 1.4

347S31

Material no. 1.4550

also listed as X6CrNiNb18-10

Chemical composition, mechanical and physical property values, and 107 standard designations from 14 regions.

DENSITY 7.9 g/cm³	ELASTIC MODULUS 193 GPa	OTHER DESIGNATIONS 107 in 14 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	HRB	HV
Plate/Sheet Hot-rolled	520	205	40	–	–	–
Hot-rolled	–	–	–	187	90	200
CONDITION · DIMENSION			RM N/mm ²	A5 %		
Pipe cooling strain, GOST 9941-81			529	37		
Pipe hot strain, GOST 9940-81			510	38		
SOFT ANNEALED						HB
Soft annealed						230
SOLUTION ANNEALED						HB
Solution annealed						210
QUENCHING 1050 - 1100°C, AIR	RM N/mm ²	RE N/mm ²		A5 %		Z %
to Ø 60	490	175		40		55
CONDITION · DIMENSION		RM N/mm ²	RE N/mm ²		A5 %	
Sheet trick, GOST 7350-77		510	205		40	
CONDITION · DIMENSION			RM N/mm ²	A5 %		
Sheet thin, GOST 5582-75			530	40		

Physical properties

6 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	LAMBDA W/(m·K)	RHO_EL nΩ·m
20	7.9	202	–	730
100	–	–	15.9	–
PROPERTY	VALUE		UNIT	
Density	7.9		g/cm ³	
Elastic modulus	193		GPa	
Thermal expansion coefficient	16.6		10 ⁻⁶ /K	
Thermal conductivity	15		W/(m·K)	
Specific heat capacity	500		J/(kg·K)	

PROPERTY	VALUE	UNIT
Electrical resistivity	730	nΩ·m

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
Solution annealing	Temperature not stated	—
Solution annealing	Temperature not stated	—
source joins the operations with (or)		
Quenching	Temperature not stated	—
Solution annealing	1050–1150 °C	Water

Designations across standards

107 designations · 5 documented as identical

United States		52		
S34700	This grade's own name	uns	F593	astm
S34800	This grade's own name	uns	F594	astm
30347		aisi-sae	F738	astm
30348		aisi-sae	F836	astm
347	This grade's own name	aisi-sae	TP347	astm
347H		aisi-sae	United States / Aerospace	
348	This grade's own name	aisi-sae	5362	ams
S34700		aisi-sae	5512	ams
S34800		aisi-sae	5556	ams
347 H		astm	5558	ams
A 182 Grade F347		astm	5571	ams
A 312 Grade TP347		astm	5575	ams
A 403 Grade WP347		astm	5646	ams
A1012		astm	5654	ams
A1049		astm	5674	ams
A182		astm	5680	ams
A193		astm	5790	ams
A194		astm	5897	ams
A213		astm	7490	ams
A240		astm	United Kingdom	
A249		astm	347 S 40	bs
A264		astm	347 S 50	bs
A269		astm	347 S 51	bs
A276		astm	347S17	bs
A312		astm	347S20	bs
A313		astm	347S31	bs
A314		astm	58F	bs
A320		astm	ANC 3 grade B	bs
A336		astm	ANC3B	bs
A358		astm	EN58F	bs
A376		astm	S130	bs
A403		astm	Russia / CIS	
A409		astm	03Ch17N14M3	gost
A430		astm	08Ch18N10B	gost
A473		astm	08Ch18N12B	gost
A479		astm	08KH18N12B	gost
A511		astm	08X18H12B	gost
A554		astm	08X18H10B	gost
A580		astm	08X18H12B	gost
A632		astm	0X18H12B	gost
A774		astm	0X18H12B	gost
A778		astm	3M402	gost
A813		astm		
A814		astm		
A943		astm		
A965		astm		
F2281		astm		

Japan7		Europe2	
SUS 347FB	jis	1.4550	din-en
SUS 347HTB	jis	X6CrNiNb18-10	This grade's own name din-en
SUS 347TB	jis		
SUS 347TKA	jis	Italy2	
SUS 347TP	jis	X6CrNiNb1811	uni
SUS F 347	jis	X8CrNiNb18-11	uni
SUS347	jis		
Spain3		France1	
F.3524	une	Z6CNNb18-10	afnor
F.3552	une		
X6CrNiNb18-10	une	Sweden1	
		2338	ss
China3		Czechia1	
0Cr18Ni11Nb	gb	17 XXX NN	csn
1Cr18Ni11Nb	gb		
1Cr19Ni11Nb	gb	Poland1	
		OH18N12Nb	pn
		Serbia1	
		Č.4582	srps

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 347S31

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	1.4550	Aug 20, 2026