

MATERIAL NUMBER 1.4438 · CLASS 1.4

317S12

Material no. 1.4438

also listed as X 2 CrNiMo 18 16 4

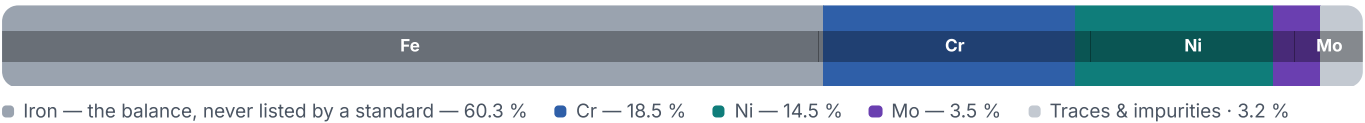
Chemical composition, mechanical and physical property values, and 49 standard designations from 12 regions.

DENSITY 8 g/cm ³	ELASTIC MODULUS 200 GPa	OTHER DESIGNATIONS 49 in 12 regions	PROPERTY VALUES 15 on file
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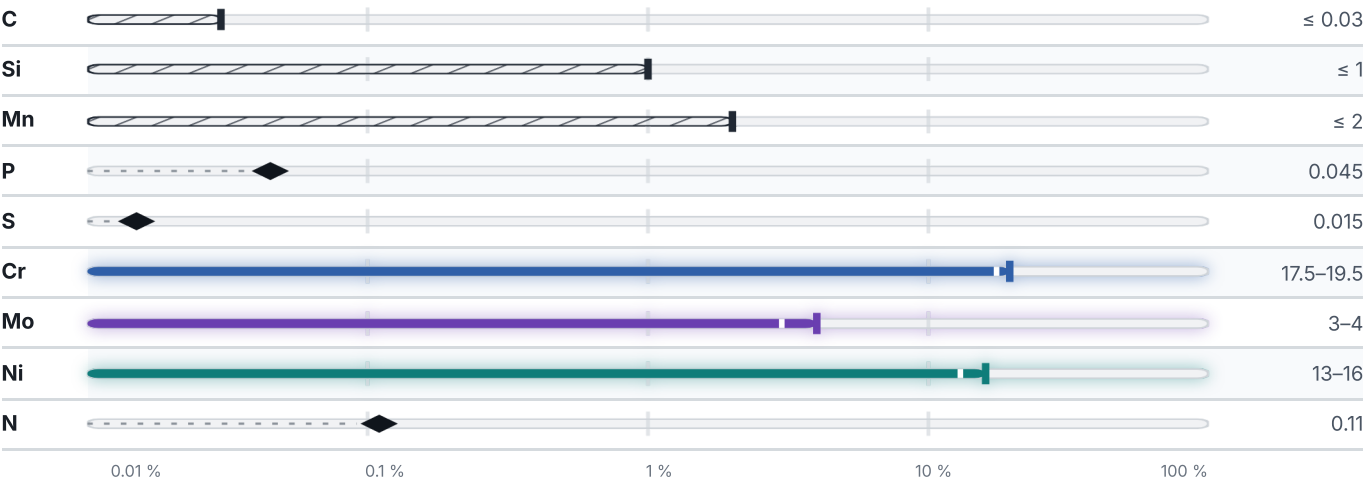
Chemical composition

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

8 values across 3 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
SOFT ANNEALED						HB
Soft annealed						215
SOLUTION ANNEALED						HB
Solution annealed						200

Physical properties

6 values

PROPERTY	VALUE	UNIT
Density	8	g/cm ³
Elastic modulus	200	GPa
Thermal expansion coefficient	16.5	10 ⁻⁶ /K
Thermal conductivity	15	W/(m·K)
Specific heat capacity	500	J/(kg·K)
Electrical resistivity	790	nΩ·m

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
source joins the operations with + / procedural order		
Solution annealing	Temperature not stated	—
Quenching	Temperature not stated	—
Annealing	Temperature not stated	—
Solution annealing	Temperature not stated	—

Designations across standards

49 designations · 5 documented as identical

United States		25	Europe		4
S31700		uns	1.4438		din-en
S31703	This grade's own name	uns	X 2 CrNiMo 18 16 4	This grade's own name	din-en
317L	This grade's own name	aisi-sae	X2CrNiMo 19-14-4	This grade's own name	din-en
S31703		aisi-sae	X2CrNiMo18-15-4	This grade's own name	din-en
A1012		astm	France4		
A1049		astm			
A182		astm	Z2CND19-15-04		afnor
A213		astm	Z2CND19.15		afnor
A240		astm	Z3CND19-15-04		afnor
A249		astm	Z8CND19-15		afnor
A276		astm	China2		
A312		astm			
A314		astm	00Cr19Ni13Mo3		gb
A403		astm	OOCr19Ni13Mo		gb
A409		astm	Italy2		
A473		astm			
A478		astm	X2CrNiMo 18 15		uni
A479		astm	X2CrNiMo1816		uni
A774		astm	United Kingdom1		
A778		astm			
A813		astm	317S12		bs
A814		astm	Spain1		
A903		astm			
A943		astm	F.3539		une
A988		astm	Sweden1		
Japan		6	2367ss		
SUS 317LFB		jis	Poland1		
SUS 317LTB		jis			
SUS 317LTP		jis	00H17N14M2		pn
SUS F 317L		jis	former Yugoslavia1		
SUS Y 317L		jis			
SUS317L		jis	Č.45705		jus
			Finland1		
			770sfs		

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 317S12

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

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DATASHEET ONLINE

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GRADE SEARCH

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ISSUED

Aug 20, 2026