

MATERIAL NUMBER 1.4580 · CLASS 1.4

3M680

Material no. 1.4580

also listed as X6CrNiMoNb17-12-2

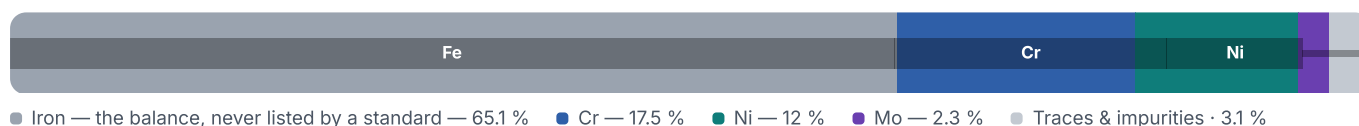
Chemical composition, mechanical and physical property values, and 16 standard designations from 8 regions.

DENSITY	OTHER DESIGNATIONS	PROPERTY VALUES
7.95 g/cm ³	16 in 8 regions	9 on file

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

11 values across 4 conditions

SOFT ANNEALED					HB
Soft annealed					230
CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	KCU kJ/m²	
Sheet	550	230	25	800	
CONDITION · DIMENSION	RM N/mm²	RE N/mm²	A5 %	Z %	KCU kJ/m²
Bar, GOST 5949-75	550	215	40	50	1180
CONDITION · DIMENSION					HB
08KH16N13M2B (08X16H13M2Б) (annealing) , Bar GOST 5949-75					143–179

Physical properties

1 values

CONDITION · DIMENSION	RHO g/cm³	E GPa	ALPHA 10 ^{^-6} /K	LAMBDA W/(m·K)
20	7.96	206	–	–
100	–	200	–	15.2
200	–	191	–	17.1
300	–	183	–	18.4
400	–	174	17.1	20.1
500	–	167	17.4	21.7
600	–	158	17.8	23
700	–	–	18.2	24.7
800	–	–	18.6	–
PROPERTY	VALUE		UNIT	
Density	7.95		g/cm³	

Designations across standards

16 designations · 4 documented as identical

Russia / CIS		5	United States		4
08Ch16N13M2B	gost		J92971	This grade's own name	uns
08KH16N13M2B	gost		S31640	This grade's own name	uns
08X16H13M2Б	gost		316Cb	This grade's own name	aisi-sae
1X16H13M2Б	gost		S31640		aisi-sae
ЭИ680	gost				

France	2	Spain	1
Z6CNDNb17-12	afnor	F.3536	une
Z6CNDNb18-12	afnor		
Europe	1	China	1
X6CrNiMoNb17-12-2	This grade's own name din-en	06Cr17Ni12Mo2Nb	gb
United Kingdom	1	Serbia	1
318 S 17	bs	Č.4583	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 31680

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	1.4580	Aug 20, 2026