

MATERIAL NUMBER 1.2581 · CLASS 1.2

1.2581

Chemical composition, mechanical and physical property values, and 33 standard designations from 18 regions.

DENSITY 7.85 g/cm³	OTHER DESIGNATIONS 33 in 18 regions	PROPERTY VALUES 16 on file
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Chemical composition

Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 86.9 % ● W — 9 % ● Cr — 2.9 % ● V — 0.4 % ● Traces & impurities · 0.9 %

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: Ni, Mo.

Mechanical properties

9 values across 4 conditions

CONDITION · DIMENSION		HB			HRC
Annealed		241			–
Quenched and tempered		–			48
SOFT ANNEALED					HB
Soft annealed					241
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	KCU kJ/m ²
Steel	1530	1390	12	36	200
CONDITION · DIMENSION					HB
(annealing)					241

Physical properties

8 values

CONDITION · DIMENSION	E GPa	LAMBDA W/(m·K)	RHO_EL nΩ·m	
20	224	–	–	
100	218	25	250	
200	211	27	200	
300	204	29	170	
400	196	40	140	
500	187	46	120	
600	177	50	–	
PROPERTY	VALUE		UNIT	
Density	7.85		g/cm ³	
Transformation point Ac1	800		°C	
Transformation point Ac3	850		°C	
Transformation point Ar3	750		°C	
Transformation point Ar1	690		°C	

Technological properties

PROPERTY	VALUE	UNIT
Weldability	is not used.	

PROPERTY	VALUE	UNIT
Flake sensitivity	predisposed	
Temper brittleness	predisposed	

Heat treatment

3 regimes

STEP	TEMPERATURE	MEDIUM
Quenching	Temperature not stated	—
Quenching	1070–1125 °C	Oil
Annealing	Temperature not stated	—

Designations across standards

33 designations · 3 documented as identical

Spain4		Italy2	
F.5320	une	X28W09KU	uni
F.5323	une	X30WCrV9-3KU	uni
WCrV9	une	Czechia2	
X30WCrV9	une	19721	csn
United States3		19830	csn
T20821	This grade's own nameuns	Poland2	
H21	This grade's own nameaisi-sae	WWV	pn
T20821	aisi-sae	WWW	pn
Europe2		Bulgaria2	
1.2581	din-en	3Ch2B8F	bds
X30WCrV9-3	This grade's own namedin-en	X30WCrV9-3	bds
United Kingdom2		Austria2	
2581	bs	BOHLERW100	onorm
BH21	bs	W100	onorm
France2		International1	
X30WCrV9	afnor	X30WCrV9-3	iso
Z30WCV9	afnor	Japan1	
China2		SKD5	jis
30WCrV9	gb	Slovakia1	
3Cr2W8V	gb	19 721	stn
Russia / CIS2		Serbia1	
3KH2V8F	gost	Č.6451	srps
3X2B8Φ	gost		

Romania	1	South Korea	1
30VCrW85	stas	STD5	ks

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 1.2581

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	1.2581	Aug 20, 2026