

MATERIAL NUMBER 1.0116 · CLASS 1.0

VSt3ps

Material no. 1.0116

also listed as S235J2G3

Chemical composition, mechanical and physical property values, and 66 standard designations from 11 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 66 in 11 regions	PROPERTY VALUES 12 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: Si, Ni, Cr, Mo.

Mechanical properties

26 values across 3 conditions

FLAT AND LONG PRODUCTS	REH N/mm ²	RM N/mm ²
≤ 3	—	360–510

FLAT AND LONG PRODUCTS	REH N/mm ²	RM N/mm ²	
3 – 100	–	360–510	
≤ 16	235	–	
16 – 40	225	–	
40 – 63	215	–	
63 – 80	215	–	
80 – 100	215	–	
100 – 150	195	350–500	
150 – 250	–	340–490	
150 – 200	185	–	
200 – 250	175	–	
250 – 400	–	330–480	
CONDITION · DIMENSION	A80 % · Lo = 80 mm	A % · Lo = 5,65 √So	
≤ 1	17	–	
1– 1.5	18	–	
1.5 – 2	19	–	
2 – 2.5	20	–	
2.5 – 3	21	–	
3 – 40	–	26	
40 – 63	–	25	
63 – 100	–	24	
100 – 150	–	22	
150 – 250	–	21	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %
to 20	360–460	235	27

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa
20	7.85	213
100	–	208

CONDITION · DIMENSION	RHO g/cm ³	E GPa
200	–	202
300	–	195
400	–	187
500	–	176
600	–	167
700	–	153

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³
Transformation point Ac1	735	°C
Transformation point Ac3	850	°C
Transformation point Ar3	835	°C
Transformation point Ar1	680	°C

Technological properties

PROPERTY	VALUE	UNIT
Weldability	without limitations.	
Flake sensitivity	not predisposed	
Temper brittleness	not predisposed	

Designations across standards

66 designations · 5 documented as identical

Russia / CIS	39	United States	11
08Kh14N5M2DL	gost	K01702 This grade's own name	uns
08X14H5M2ДЛ	gost	K02001 This grade's own name	uns
0Kh18N5G12AB	gost	K02601 This grade's own name	uns
0Kh20N4AG10	gost	K02701	uns
0X18H5Г12АБ	gost	A284	aisi-sae
0X20H4AГ10	gost	A573	aisi-sae
34KhM	gost	A611	aisi-sae
34XMA	gost	C A611 Gr. C	aisi-sae
A3	gost	A284	astm
CHKH3	gost	A573	astm
CHKH3T	gost	A611	astm
CHN3KHMSH	gost		
L3	gost	United Kingdom	4
LR3	gost	4360-40C	bs
PA-ZhGr3	gost	D-1449-37C	bs
PA-ZhGr3M	gost	Gr 40D	bs
PA-ZhGr3TSs	gost	HS 37	bs
PA-ZhNGr3M	gost		
PF3	gost	France	3
PVK3	gost	E24-3	afnor
PZhR3	gost	E24-4	afnor
PZhV3	gost	S235J2G3	afnor
S245	gost		
VSt3Gps	gost	Europe	2
VSt3kp	gost	S235J2G3 This grade's own name	din-en
VSt3ps	gost	St 37-3 N This grade's own name	din-en
VSt3sp	gost		
ACHS-3	gost	Spain	2
ВНЛ-3	gost	A360	une
ЖГр3	gost	A360 C	une
ЖГр3-20	gost		
ЖГр3-5.5	gost	Japan	1
ЖГр3M15	gost	SS34	jis
ЖГр3Цc4	gost		
ЖГр3Цc4У	gost	Sweden	1
ЖНГр3M15	gost	1313	ss
HH3	gost		
HH3Б	gost	Czechia	1
Ст3cp	gost	11378	csn
		Poland	1
		St3W	pn
		South Africa	1
		240 WDD	sans

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 VSt3ps
Quotation, availability, mill certificate or a technical question — directly on the material page.

Start an enquiry

DATASHEET ONLINE
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GRADE SEARCH
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ISSUED
Aug 20, 2026