

MATERIAL NUMBER 1.1132 · CLASS 1.1

ЭП-439

Material no. 1.1132

also listed as C15E2C

Chemical composition, mechanical and physical property values, and 31 standard designations from 5 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 31 in 5 regions	PROPERTY VALUES 16 on file
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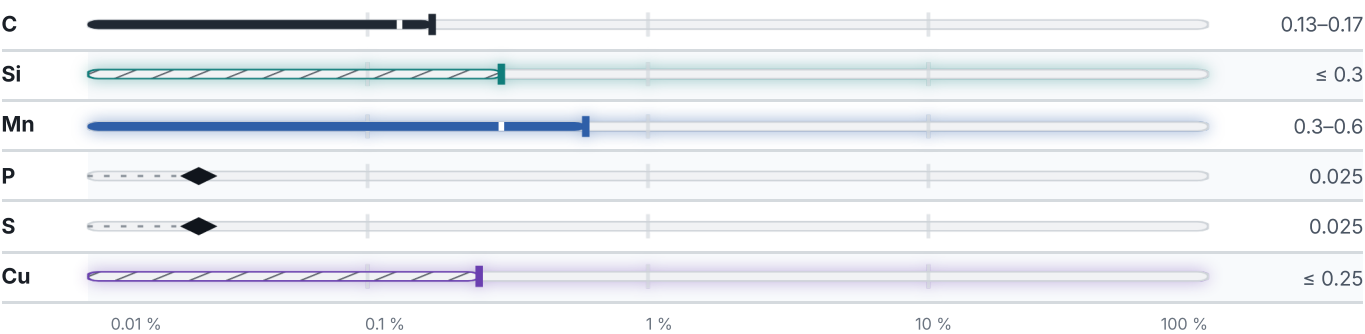
Chemical composition

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: Ni, Cr, Mo.

Mechanical properties

22 values across 3 conditions

CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %	Z %	HB
Pipe, GOST 5005-82	510	430	8	–	–
Rolled stock cold-worked , GOST 1050-88	440	–	8	45	–
Rolled stock annealed , GOST 1050-88	340	–	23	55	–
Band annealed , GOST 2284-79	310–490	–	20	–	–
Band cold-worked , GOST 2284-79	440–780	–	–	–	–
Sheet GOST 4041-71	–	–	–	–	121
Bar GOST 10702-78	–	–	–	–	125
Rolled stock GOST 1050-88	–	–	–	–	197
Sheet trick GOST 1577-93	–	–	–	–	143
CONDITION · DIMENSION	RM N/mm ²		A5 %		
4 - 14	320–440		30		
NORMALIZING	RM N/mm ²	RE N/mm ²	A5 %	Z %	
to 80	370	225	27	55	

Physical properties

8 values

CONDITION · DIMENSION	RHO g/cm ³	E GPa	ALPHA 10 ^{^-6} /K	LAMBDA W/(m·K)	CP J/(kg·K)	RHO_EL nΩ·m
20	7.85	201	–	53	–	–
100	7.827	192	12.4	53	465	233
200	7.794	185	13.2	53	486	296
300	7.759	176	13.9	49	515	387
400	7.724	156	14.4	46	532	487
500	7.687	–	14.8	43	565	607
600	7.648	–	15.1	39	586	753
700	7.611	–	15.3	36	620	904
800	7.599	–	14.1	32	691	1092
900	7.584	–	13.2	30	708	1140

PROPERTY	VALUE	UNIT
Density	7.85	g/cm ³
Transformation point Ac1	735	°C
Transformation point Ac3	860	°C
Transformation point Ar3	840	°C
Transformation point Ar1	685	°C

Technological properties

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

Designations across standards

31 designations · 5 documented as identical

Russia / CIS		23	Europe		3
15		gost	15kp		din-en
15G		gost	C15E2C	This grade's own name	din-en
15GFD		gost	Cq 15	This grade's own name	din-en
15GL		gost			
15GNL		gost	United States2		
15GS		gost	G10150	This grade's own name	uns
15KHF		gost	1015	This grade's own name	aisi-sae
15KhFA		gost			
15KhGNM		gost	Japan2		
15KhL		gost	S15C		jis
15KhMFA		gost	S15CK		jis
15KhMFKR		gost			
15KHSND		gost	China1		
15kp		gost	15	This grade's own name	gb
15ps		gost			
15YuA		gost			
15ГC-Ш		gost			
15XCHД-Ш		gost			
A15Kh		gost			
CHS15		gost			
ShKh15-ShD		gost			
Sv-15GSTYuTsA		gost			
ЭП-439		gost			

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 3П-439

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

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ISSUED

Aug 20, 2026