

MATERIAL NUMBER 1.0308 · CLASS 1.0

PZhR2

Material no. 1.0308

also listed as E235

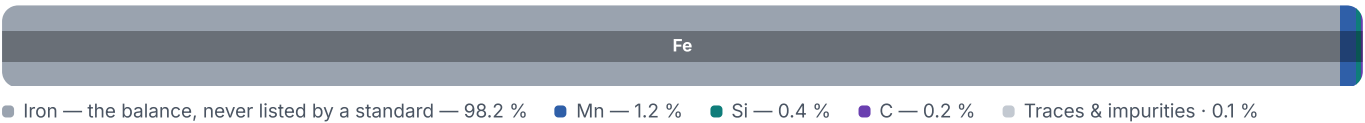
Chemical composition, mechanical and physical property values, and 69 standard designations from 9 regions.

DENSITY 7.85 g/cm ³	OTHER DESIGNATIONS 69 in 9 regions	PROPERTY VALUES 13 on file
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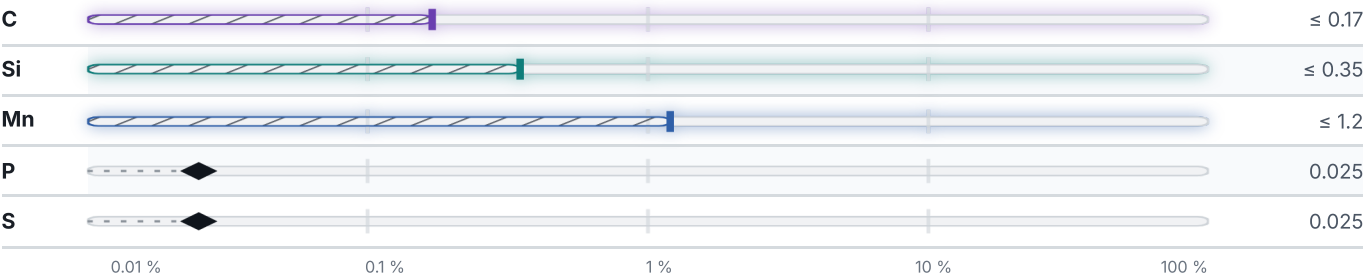
Chemical composition

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

15 values across 2 conditions

AS ROLLED	REH N/mm ²	RM N/mm ²
≤ 16	235	360

AS ROLLED	REH N/mm ²	RM N/mm ²	
16 – 40	225	360	
40 – 65	215	360	
65 – 100	–	340	
65 – 80	205	–	
80 – 100	195	–	
CONDITION · DIMENSION	RM N/mm ²	RE N/mm ²	A5 %
to 20	320–410	215	33
20 - 40	320–410	205	32

Physical properties

8 values

CONDITION · DIMENSION			RHO g/cm³
20			7.85
PROPERTY	VALUE	UNIT	
Density	7.85	g/cm³	
Transformation point Ac1	735	°C	
Transformation point Ac3	854	°C	
Transformation point Ar3	835	°C	
Transformation point Ar1	682	°C	

Technological properties

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

Heat treatment

7 regimes

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

STEP	TEMPERATURE	MEDIUM
Annealing	Temperature not stated	—
Tempering	Temperature not stated	—
Normalizing	Temperature not stated	—
Tempering	Temperature not stated	—
Annealing	Temperature not stated	—
source joins the operations with (or)		
Normalizing	Temperature not stated	—
Normalizing	Temperature not stated	Air
Normalizing	Temperature not stated	—
Normalizing	Temperature not stated	—
Normalizing	Temperature not stated	—
Normalizing	Temperature not stated	—
source joins the operations with (or)		
Annealing	Temperature not stated	—
Tempering	Temperature not stated	—

Designations across standards

69 designations · 7 documented as identical

Russia / CIS		44	United Kingdom		6
08Kh15N5D2T-Sh	gost		CEW4		bs
08X15H5Д2Т	gost		CFS4		bs
08X15H5Д2Т-Ш	gost		ERW2		bs
10	gost		ERW3		bs
10Kh14N5M2L	gost		ERW4		bs
10X14H5M2Л	gost		S360		bs
A2	gost		United States		5
CHKH2	gost		G10100	This grade's own name	uns
CHN2KH	gost		K02504	This grade's own name	uns
KT-2	gost		1010	This grade's own name	aisi-sae
L2	gost		1020		aisi-sae
LR2	gost		A 53 GrA		astm
P2	gost		Europe		4
PA-ZhGr2	gost		E235	This grade's own name	din-en
PA-ZhGr2D	gost		RSt 37-2	This grade's own name	din-en
PA-ZhGr2K	gost		S235G2T	This grade's own name	din-en
PF2	gost		St 35	This grade's own name	din-en
PL2	gost		China		4
PVK2	gost		Q215B		gb
PZhR2	gost		Q215B-b		gb
PZhV2	gost		Q215B-F		gb
St2kp	gost		Q215B-Z		gb
V2F	gost		France		3
VSt2kp	gost		ES235		afnor
VSt2ps	gost		TS-34a		afnor
VSt2sp	gost		TU376		afnor
ACHK-2	gost		Italy		1
ACHS-2	gost		Fe360		uni
ACHV-2	gost		Czechia		1
ВНЛ-2	gost		11353		csn
ВНС-2-Ш	gost		Croatia		1
Ж50-58	gost		Č0361		hrn
ЖГр2	gost				
ЖГр2-20	gost				
ЖГр2Д2.5	gost				
ЖГр2К1	gost				
ЖГр3Д3	gost				
ЖГр3Д3-5.5	gost				
ЖГр3К0.8	gost				
ЖГр3К1	gost				
Ст2пс	gost				
Ст2сп	gost				
ЭП410	gost				
ЭП410-Ш	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 PZhR2

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

[Start an enquiry](#)

DATASHEET ONLINE
View the material page

GRADE SEARCH
Search all grades

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ISSUED
Aug 20, 2026