

Database of Steel and Alloy (Marochnik)

splay.kharkov.com/en[Home](#)[European steel grades](#)[Steel and Alloy](#)[Search](#)[Equivalent grades](#)[Grading](#)[GOST Standard](#)[Contacts](#)YOU HERE: [Steel and Alloy](#) -> [Structural steel](#)

Characteristics for grade St3kp (Ст3кп).

Grade :	St3kp (Ст3кп)
Classification :	Normal quality structural carbon steel
Equivalent grades:	Go here

Chemical composition in % for grade St3kp (Ст3кп)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
0.14 - 0.22	max 0.05	0.3 - 0.6	max 0.3	max 0.05	max 0.04	max 0.3	max 0.008	max 0.3	max 0.08

Mechanical properties under T=20°C for grade St3kp (Ст3кп)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ/m ²	-
Pipe, GOST 8696-74			363	235	23			
Pipe, GOST 10705-80			372	225	22			
Rolled stock, GOST 535-2005			360-460	195-235	24-27			
Sheet trick, GOST 14637-89			360-460	195-235	24-27			
Rebar, GOST 5781-82			373	235	25			
Wire rods, GOST 30136-95			490-540			60		

Brinell hardness for St3kp (Ст3кп) ,

HB 10⁻¹ = 131 MPa

Technological properties for grade St3kp (Ст3кп)

Weldability:	without limitations.
Flakes :	not predisposed
Temper brittleness:	not predisposed

Physical properties for grade St3kp (Ст3кп)

T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹
Grade	MPa	1/Grade	Watt/(m·Grade)	kg/m ³	J/(kg·Grade)	Ohm·m
20				7850		

Equivalent steels for grade St3kp (Ст3кп)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	Canada	European	Italy	Belgium	Spain	China	Sweden	Bulgaria	Hungary	Poland	Romania	Czechia	Austria	Inter
-	DIN, WNr	JIS	AFNOR	BS	HG	EN	UNI	NBN	UNE	GB	SS	BDS	MSZ	PN	STAS	CSN	ONORM	ISO
A283(A)	1.0036	SS400	4360-40D	1449-	230G	1.0036	Fe360B	FE360B	AE235B	A3	1311	BS13kp	A1	SS400	OB37	10216	St37F	E235-
A284Gr.D	1.0036	STKM12A	E24-3	37/23CR		Fe37-3FN	Fe360BFU	FED1FF	AE235D	Q235	1312	BS13ps	B38.24	St3SX	OL37.1	11373		A
A570(33)	1.0116		E24-4	235JRG1		Fe37-3FU	Fe360C		Fe360B	Q235A	1313	Ew-08AA	B38.24B	St3SY		11378		Fe360
A570(36)	Fe360B		S235J0	4360-40B		Fe37B1FN	Fe360CFN		Fe360D1FF	Q235A-F		S235J2G3	Fe235B/FU	St3W				A
A573Gr.58	Fe360D1		S235J2G3	4449-250		Fe37B1FU	Fe360D		S235J2G3	F		S235JRG1	S235J2G3					A
A611Gr.C	RS137-2		S235J2G4	Fe360B		Fe37B3FN	Fe360DFF		S235JRG1	Q235A-Z		WS13kp	S235JRG1					A
K01804	S235J2G3		S235JRG1	Fe360D1FF		Fe37B3FU	Fe37-2			Z								
K02001	S235JRG1			HFS4		S235J2G3	S235J0			Q235B								
K02301	US137-2			HFV4		S235JRG1	S235J2G3			Q235B-Z								
K02502	US137-2G			S235J2G3			S235J2G4											
K02601							S235JRG1											
K02701																		
K02702																		

Specification :

Mechanical properties :

- σ_B - Tensile strength, [MPa]
 σ_T - Yield stress, [MPa]
 δ_5 - Specific elongation at fracture, [%]
 ψ - Reduction of area, [%]
 KCU - Impact strength, [kJ/m²]
 HB - Brinell hardness, [MPa]

Physical properties :

T - Test temperature, [Grade]

E - Young modulus , [MPa]

α - Coefficient of linear expansion (range $20^{\circ} - T$) , [1/Grade]

λ - Thermal (heat) condition coefficient , [Watt/(m·Grade)]

ρ - Density , [kg/m³]

C - Specific heat (range $20^{\circ} - T$), [J/(kg·Grade)]

R - Electrical resistance , [Ohm·m]

Weldability :

without limitations - welding is done without heating and subsequent heat treating

limited weldability - welding is possible under heating up to 100-120 grade and subsequent heat treating

hard weldability - obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treating is annealing

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more then 2500 steels and alloys (stainless steel, alloy steel, carbone steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

[Top](#)

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