

Database of Steel and Alloy (Marochnik)

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Characteristics for grade St4kp (Ст4кп).

Grade :	St4kp (Ст4кп)
Classification :	Normal quality structural carbon steel
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Chemical composition in % for grade St4kp (Ст4кп)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
0.18 - 0.27	max 0.05	0.4 - 0.7	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 St4kp (Ст4кп)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe, GOST 10705-80			412	245	21			
Rolled stock, GOST 535-2005			400-510	225-255	22-25			

Brinell hardness for St4kp (Ст4кп) ,	HB 10⁻¹ = 143 MPa
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Technological properties for grade St4kp (Ст4кп)

Weldability:	limited weldability.
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Physical properties for grade St4kp (Ст4кп)

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 St4kp (Ст4кп)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Belgium	Spain	China	Sweden	Bulgaria	Poland	Romania	Czechia	Inter
-	DIN,WNr	JIS	AFNOR	BS	EN	UNI	NBN	UNE	GB	SS	BDS	PN	STAS	CSN	ISO
A573	1,0144	SM400A	E28-3	4360-43C	1,0144	Fe430B	FE430D1FF	AE275D	Q255	1411	BS4kp	St4SX	OL42.1	11423	E275-A
A573Gr.70	Fe430D1	SM400B	E28-4	43C	S275J2G3	Fe430C(FN)		Fe430D1FF		1412	WS4kp				Fe430-A
A611Gr.D	St4403	SM400C		43D	S275JO	Fe430D(FF)				1414					
K03000				Fe430D1FF											
				S275J2G3											
				S275N											

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° - T) , [1/Grade]

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

ρ - Density , [kg/m³]

C - Specific heat (range 20° - 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

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