

Database of Steel and Alloy (Marochnik)

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Characteristics for grade St4ps (Cr4nc).

Grade :	St4ps (Cr4nc)
Classification :	Normal quality structural carbon steel
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Chemical composition in % for grade St4ps (Cr4nc)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
0.18 - 0.27	0.05 - 0.15	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 St4ps (Cr4nc)

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			410-530	235-265	21-24			
Sheet trick, GOST 14637-89			410-530	235-265	21-23			

Brinell hardness for St4ps (Cr4nc) ,

HB 10⁻¹ = 143 MPa

Technological properties for grade St4ps (Cr4nc)

Weldability:	limited weldability.
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Physical properties for grade St4ps (Cr4nc)

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 St4ps (Cr4nc)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	Canada	European	Italy	Belgium	Spain	China	Sweden	Bulgaria	Hungary	Poland	Romania	Czechia	South Korea	Inter
-	DIN, WNr	JIS	AFNOR	BS	HG	EN	UNI	NBN	UNE	GB	SS	BDS	MSZ	PN	STAS	CSN	KS	ISO
A570Gr.40 A573Gr.70 A611Gr.D G10200 GradeD K02702	1.044 Fe430B Fe430D1 S275J0H S275J2G3 S275JR St44-2 St44-3 US442-2	SM400A SM400B SM400C SN400B SN400C SN490B SN490C SS400 SS41 STKM400 STKM19C STKR400	E28-2 E28-3 E28-4 S275JR	1449- 43/25HR 4360-43B 4360-43C 43B 43C 43D CEW4 ERW4 Fe430BFN Fe430D1FF HFS4 HFW4 HS S275J2G3 S275JR S275N SAW4	260W 300W	1.0044 1.0143 1.0144 Fe42-3FN Fe430D(FN) Fe430D(FF) S275JR	Fe430B Fe430BFN Fe430C(FN) Fe430D(FF) S275JR	FE430BFN FE430D1FF	AE275B AE275D Fe430BFN Fe430D1FF S275JR	Q225 Q255A	1411 1412 1414	BS4ps S275JR FK WS4ps S275JR	Fe275B S275JR S275JR	S4SY	OL42.1	11423 11443	STKM19C	E275-B Fe430-B

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 / m ²]
HB	- Brinell hardness , [MPa]

Physical properties :

T	- Test temperature , [Grade]
E	- Young modulus , [MPa]
α	- Coefficient of linear expansion (range 20 ⁰ - 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 ia 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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