

Database of Steel and Alloy (Marochnik)

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Characteristics for grade St6sp (Cr6cn).

Grade :	St6sp (Cr6cn)
Classification :	Normal quality structural carbon steel
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Chemical composition in % for grade St6sp (Cr6cn)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
0.38 - 0.49	0.15 - 0.3	0.5 - 0.8	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 St6sp (Cr6cn)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe, GOST 8731-87			588	304	14			
Rolled stock, GOST 535-2005			590	295-315	12-15			

Brinell hardness for St6sp (Cr6cn) ,	HB 10 ⁻¹ = 197 MPa
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Technological properties for grade St6sp (Cr6cn)

Weldability:	limited weldability.
Flakes :	not predisposed
Temper brittleness:	not predisposed

Physical properties for grade St6sp (Cr6cn)

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 St6sp (Cr6cn)

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	Switzerland
-	DIN,WNr	JIS	AFNOR	BS	HG	EN	UNI	NBN	UNE	GB	SS	BDS	MSZ	PN	STAS	CSN	ONORM	SNV
A572 A572Gr.65	1.0060 1.0060 E335 E360 Fe590-2 St60-2 St60-2G	SM570 SM58	A60-2 E335	4360- 55C 4360- 55E 55C E335 Fe590- 2FN	480WT	1.0060 1.0580 E335 E355 Fe60- 2FN Fe60- 3FN	E335 Fe590 Fe60- 2	FE590- 2FN	A590-2 E355 Fe590- 2FN	HRB335	1650	AST6 E335 WSt6sp	E355 Fe590-2	MS16 St6	OL60.1k	11600	St60F	St60-2

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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