

Database of Steel and Alloy (Marochnik)

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Characteristics for grade St0 (Cт0).

Grade :	St0 (Cт0)
Classification :	Normal quality structural carbon steel
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Chemical composition in % for grade St0 (Cт0)

C	S	P
max 0.23	max 0.06	max 0.07

Mechanical properties under T=20°C for grade St0 (Cт0)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Rolled stock, GOST 535-2005			300		15-18			
Sheet trick, GOST 14637-89			300		20-23			
Wire rods , GOST 30136-95			420-470			58-68		

Technological properties for grade St0 (Cт0)

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

Physical properties for grade St0 (Cт0)

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 St0 (Cт0)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Belgium	Spain	China	Sweden	Bulgaria	Hungary	Poland	Romania	Czechia	Austria	Inter
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	NBN	UNE	GB	SS	BDS	MSZ	PN	STAS	CSN	ONORM	ISO
A283(A) A366 Gr.A	1.0035 1.0035 Fe310-0 S185 St33 St33-1 St33-2	SS330	A33 S185	15HR 15HS Fe310-0 HR15 S185	1.0035 S185	Fe320 S185	FE310-0	A310-0 S185	Q195 Q195-b Q195-F Q195-Z	1300	AS10 S185	Fe3100 S185	St0S	OL32.1	10000 10004	St00H	E185 Fe310

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 than 2500 steels and alloys (stainless steel, alloy steel, carbon steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).
Helpful for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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