

Database of Steel and Alloy (Marochnik)

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Characteristics for grade VSt2sp (BCт2cn).

Grade :	VSt2sp (BCт2cn)
Substitute:	BCт2nc
Classification :	Normal quality structural carbon steel
Equivalent grades:	Is absent

Chemical composition in % for grade VSt2sp (BCт2cn)

C	Si	Mn	Ni	S	P	Cr	Cu	As
0.09 - 0.15	0.12 - 0.3	0.25 - 0.5	max 0.3	max 0.05	max 0.04	max 0.3	max 0.3	max 0.08

Temperature of critical points for grade VSt2sp (BCт2cn).

$A_{c1} = 735$, $A_{c3}(A_{cm}) = 854$, $A_{r3}(A_{rcm}) = 835$, $A_{r1} = 682$

Mechanical properties under T=20°C for grade VSt2sp (BCт2cn)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Rolled stock hotrolled	to 20		330-430	225	32			

Physical properties for grade VSt2sp (BCт2cn)

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	1.98			7850		
100	1.83					
200	1.75					
300	1.67					
400	1.58					
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

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]

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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