

Database of Steel and Alloy (Marochnik)

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Characteristics for grade VSt2ps (BCт2пс).

Grade :	VSt2ps (BCт2пс)
Substitute:	BCт2пс
Classification :	Normal quality structural carbon steel
Equivalent grades:	Go here

Chemical composition in % for grade VSt2ps (BCт2пс)

C	Si	Mn	Ni	S	P	Cr	Cu	As
0.09 - 0.15	0.05 - 0.17	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 VSt2ps (BCт2пс).

$Ac_1 = 735$, $Ac_3(Ac_m) = 854$, $Ar_3(Arc_m) = 835$, $Ar_1 = 682$

Mechanical properties under $T=20^{\circ}C$ for grade VSt2ps (BCт2пс)

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			

Technological properties for grade VSt2ps (BCт2пс)

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

Physical properties for grade VSt2ps (BCт2пс)

T	$E \cdot 10^{-5}$	$\alpha \cdot 10^6$	λ	ρ	C	$R \cdot 10^9$
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	$E \cdot 10^{-5}$	$\alpha \cdot 10^6$	λ	ρ	C	$R \cdot 10^9$

Equivalent steels for grade VSt2ps (BCτ2nc)

Warning! Indicated both exact and nearest equivalents.

Germany
DIN,WNr
RSt34-2

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 / 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 in 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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