

Database of Steel and Alloy (Marochnik)

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Characteristics for grade St3Gsp (Ст3Гсп).

Grade :	St3Gsp (Ст3Гсп)
Classification :	Normal quality structural carbon steel
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Chemical composition in % for grade St3Gsp (Ст3Гсп)

C	Si	Mn	Ni	S	P	Cr	N	Cu	As
0.14 - 0.2	0.15 - 0.3	0.8 - 1.1	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 St3Gsp (Ст3Гсп)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Roll stock, GOST 535-2005			390-570	245	24			
Sheet trick, GOST 14637-89			390-570	245-255	23-24			

Technological properties for grade St3Gsp (Ст3Гсп)

Weldability:	without limitations.
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Physical properties for grade St3Gsp (Ст3Гсп)

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 St3Gsp (Ст3Гсп)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	Inter
-	DIN, WNr	JIS	ISO
GradeB K02101 K02102 K02301	StE255	SM400B SM400C SM41B SM41C	E235-C E235-D Fe360-C Fe360-D

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° - T) , [1/Grade]
λ	- Thermal (heat) condition coefficient , [Watt/(m·Grade)]
ρ	- Density , [kg/m ³]
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).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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