

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 35GS (35ГC).

Grade :	35GS (35ГC)
Substitute:	BCт5cn, Cт6, Cт5nc
Classification :	Low alloy structural steel for welding construct
Equivalent grades:	Go here

Chemical composition in % for grade 35GS (35ГC)

C	Si	Mn	Ni	S	P	Cr	Cu
0.3 - 0.37	0.6 - 0.9	0.8 - 1.2	max 0.3	max 0.045	max 0.04	max 0.3	max 0.3

Temperature of critical points for grade 35GS (35ГC).

$Ac_1 = 750$, $Ac_3(Ac_m) = 820$, $Mn = 369$

Mechanical properties under T=20°C for grade 35GS (35ГC)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Rebar, GOST 5781-82			590	390	14			

Brinell hardness for 35GS (35ГC) (hot-rolled) ,

HB 10⁻¹ = 202 MPa

Technological properties for grade 35GS (35ГC)

Weldability:	without limitations.
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Equivalent steels for grade 35GS (35ГC)

Warning! Indicated both exact and nearest equivalents.

Germany	China	Bulgaria	Hungary	Poland	Romania	Czechia
DIN, WNr	GB	BDS	MSZ	PN	STAS	CSN
BSt420S	ZG35SiMn	35GS	B60.40	34GS R34GS	PC60	10425

Specification :

Mechanical properties :

- σ_B - Tensile strength , [MPa]
- σ_T - Yield stress , [MPa]
- Specific elongation at fracture , [%]

δ_5 ψ

- Reduction of area , [%]

KCU- Impact strength , [kJ / m²]**HB**

- Brinell hardness , [MPa]

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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