

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 35KHGSA (35XГCA).

Grade :	35KHGSA (35XГCA)
Substitute:	30XГC, 30XГCA, 30XГT, 35XM
Classification :	Alloy structural steel
Equivalent grades:	Go here

Chemical composition in % for grade 35KHGSA (35XГCA)

C	Si	Mn	Ni	S	P	Cr	Cu
0.32 - 0.39	1.1 - 1.4	0.8 - 1.1	max 0.3	max 0.025	max 0.025	1.1 - 1.4	max 0.3

Temperature of critical points for grade 35KHGSA (35XГCA).

$A_{c1} = 760$, $A_{c3}(A_{cm}) = 830$, $A_{r3}(A_{rcm}) = 705$, $Mn = 670$

Mechanical properties under T=20°C for grade 35KHGSA (35XГCA)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 4543-71			1620	1275	9	40	390	Guenching and drawing
Forging	100 - 300		660	490	13	40	540	Guenching and drawing

Brinell hardness for 35KHGSA (35XГCA) (annealing) , GOST 4543-71

HB 10 ⁻¹ = 241 MPa

Technological properties for grade 35KHGSA (35XГCA)

Weldability:	limited weldability.
Flakes :	predisposed
Temper brittleness:	predisposed

Equivalent steels for grade 35KHGSA (35XГCA)

Warning! Indicated both exact and nearest equivalents.

Bulgaria	Poland
BDS	PN
35ChGSA	35HGS 35HGSA

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]

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).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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