

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 30KHGSN2A (30XГCH2A).

Grade :	30KHGSN2A (30XГCH2A)(30XГCHA)
Classification :	Alloy structural steel
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Chemical composition in % for grade 30KHGSN2A (30XГCH2A)

C	Si	Mn	Ni	S	P	Cr	Cu
0.27 - 0.34	0.9 - 1.2	1 - 1.3	1.4 - 1.8	max 0.025	max 0.025	0.9 - 1.2	max 0.3

Temperature of critical points for grade 30KHGSN2A (30XГCH2A).

$Ac_1 = 705$, $Ac_3(Ac_m) = 800$, $Mn = 321$

Mechanical properties under T=20°C for grade 30KHGSN2A (30XГCH2A)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe, GOST 21729-76			588		15			
Bar, GOST 4543-71			1620	1375	9	45	590	Guenching and drawing
Sheet trick, GOST 11269-76			490-830		19			Normalizing
Sheet trick, GOST 11269-76			1570		9		590	Guenching and drawing
Sheet thin, GOST 11268-76			590-830		19			Normalizing
Sheet thin, GOST 11268-76			1570		9			Guenching and drawing

Brinell hardness for 30KHGSN2A (30XГCH2A) (annealing) , GOST 4543-71	HB 10 ⁻¹ = 255 MPa
Brinell hardness for 30KHGSN2A (30XГCH2A) (normalize) , Sheet trick GOST 11269-76	HB 10 ⁻¹ = 163 - 229 MPa

Technological properties for grade 30KHGSN2A (30XГCH2A)

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

Physical properties for grade 30KHGSN2A (30XГCH2A)

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	1.95		28.5	7770		440
100		10.6	29.4		0.503	
200		11.2	30.6		0.545	
300	1.8	13	31.4		0.587	
400	1.68	14.9				
500	1.35					
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 30KHGSN2A (30XГCH2A)

Warning! Indicated both exact and nearest equivalents.

Bulgaria	Poland	Czechia
BDS	PN	CSN
30ChGSN2A	30HGSNA	16532

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 - Termal (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 treeting
- limited weldability** - welding is possible under heating up to 100-120 grade and subsequent heat treeting
- hard weldability** - obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treeting 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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