

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 20KH20N14S2 (20X20H14C2).

Grade :	20KH20N14S2 (20X20H14C2) (X20H14C2 3M211)
Classification :	High alloy high-temperature steel
Equivalent grades:	Go here

Chemical composition in % for grade 20KH20N14S2 (20X20H14C2)

C	Si	Mn	Ni	S	P	Cr	Ti	Cu
max 0.2	2 - 3	max 1.5	12 - 15	max 0.025	max 0.035	19 - 22	max 0.2	max 0.3

Mechanical properties under T=20°C for grade 20KH20N14S2 (20X20H14C2)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 5949-75	Ø 60		590	295	35	55		Guenching 1000 - 1150°C, air,
Sheet thin, GOST 5582-75			590		40			

Physical properties for grade 20KH20N14S2 (20X20H14C2)

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				7800		946
100		16	15	7760		1000
200			17			1051
300			18			1095
400			19			1130
500			21			1100
600		18.1	23	7550		1194
700		18.3	24	7510		1218
800		18.5	26	7470		1242
900		18.8	28	7420		1242
1000		19				
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade 20KH20N14S2 (20X20H14C2)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Spain	China	Bulgaria	Hungary	Poland	Romania	Czechia	South Korea
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	UNE	GB	BDS	MSZ	PN	STAS	CSN	KS
309 S30900	1.4828 X15CrNiSi20-12	SUH309	308F80 Z10CNS20-12 Z10CNS25-20 Z15CNS20-12 Z17CNS20-12 Z9CN24-13	305S19 309S24 X15CrNiSi20-12	1.4828 X15CrNiSi20-12	X16CrNi23-14	F.3312 F.3312 X15CrNiSi20-12	1Cr20Ni14Si2	Ch20N14S2	H8	H20N12S2	15SiNiCr200	17251	STR309

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]

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

[Top](#)

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