

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 09KH14N16B (09X14H16B).

Grade :	09KH14N16B (09X14H16B) (3И694)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 09KH14N16B (09X14H16B)

C	Si	Mn	Ni	S	P	Cr	Ce	Nb	B
0.07 - 0.12	max 0.6	1 - 2	14 - 17	max 0.02	max 0.035	13 - 15	max 0.02	0.9 - 1.3	max 0.005

Mechanical properties under T=20°C for grade 09KH14N16B (09X14H16B)

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		490	196	35	50		Guenching 1110 - 1130°C, Cooling air,

Physical properties for grade 09KH14N16B (09X14H16B)

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			15.9	7940		774
100		15.2				
200		16.5				
300		17.1				
400		17.55				
500		17.96				
600		18.41				
700		18.91				
800		20.6				
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

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 $20^{\circ} - T$) , [1/Grade]
 λ - Thermal (heat) condition coefficient , [Watt/(m·Grade)]
 ρ - Density , [kg/m³]
C - Specific heat (range $20^{\circ} - T$), [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

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