

Database of Steel and Alloy (Marochnik)

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Characteristics for grade 45KH14NMV2M (45X14HMB2M).

Grade :	45KH14NMV2M (45X14HMB2M)(4X14H14B2M ЭИ69)
Classification :	High alloy high-temperature steel
Equivalent grades:	Is absent

Chemical composition in % for grade 45KH14NMV2M (45X14HMB2M)

C	Si	Mn	Ni	S	P	Cr	Mo	W	Cu
0.4 - 0.5	max 0.8	max 0.7	13 - 15	max 0.02	max 0.035	13 - 15	0.25 - 0.4	2 - 2.75	max 0.3

Mechanical properties under T=20°C for grade 45KH14NMV2M (45X14HMB2M)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar		longitudinal	720	320	20	25	500	

Physical properties for grade 45KH14NMV2M (45X14HMB2M)

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	2.12		13.9	8000		
100	2		13.6			
200	1.94		16.7			
300	1.85	17	18.8		507	
400	1.76		19.8		512	
500	1.69	18	20.9		520	
550	1.66					
600	1.6		21.9		528	
650	1.57					
700	1.52	18	24.4			
750	1.48					
800	1.44					
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° - T) , [1/Grade]
 λ - Thermal (heat) condition coefficient , [Watt/(m·Grade)]
 ρ - Density , [kg/m³]
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

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