

Database of Steel and Alloy (Marochnik)

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Characteristics for grade KHN56VMKYU (XH56BMKЮ).

Grade :	KHN56VMKYU (XH56BMKЮ) (ЭП109 ХН56ВМКЮ-ВД ЭП109-ВД)
Classification :	High-temperature or heat-resistant alloy
Equivalent grades:	Is absent

Chemical composition in % for grade KHN56VMKYU (XH56BMKЮ)

Fe	C	Si	Mn	Ni	S	P	Cr	Ce	Mo	W	Co	Al	B
max 1.5	max 0.1	max 0.6	max 0.3	52.234 - 62.6	max 0.011	max 0.015	8.5 - 10.5	max 0.02	6.5 - 8	6 - 7.5	11 - 13	5.4 - 6.2	max 0.02

Mechanical properties under T=20°C for grade KHN56VMKYU (XH56BMKЮ)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 23705-79		longitudinal	1080- 1280	750	9- 15	11- 16	196- 490	Heating 1220°C, 4 - 6h, Cooling air, Ageing 950°C, 8h, Cooling air,

Brinell hardness for KHN56VMKYU (XH56BMKЮ) (quenching, ageing), Bar GOST 23705-79 HB 10⁻¹ = 302 - 363 MPa

Physical properties for grade KHN56VMKYU (XH56BMKЮ)

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	2.1			8450		
100		11.8	8.8			
200		12.2	10.5			
300		12.7	11.8			
400		13.1	13.8			
500	1.88	13.4	15.9			
600	1.83	13.6	18.4			
700	1.76	14.1	20.9			
800	1.69	14.8	23.4			
900		15.7	25.9			
1000		17				
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 / 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

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