

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK8M3ch (AK8M3ч).

Grade :	AK8M3ch (AK8M3ч) (БАЛ8)
Classification :	Aluminium casting alloys
Equivalent grades:	Is absent

Chemical composition in % for grade AK8M3ch (AK8M3ч)

Fe	Si	Ti	Al	Cu	Zr	B	Be	Mg	Zn	Cd	Impurity
max 0.4	7 - 8.5	0.1 - 0.25	85.4 - 89.65	2.5 - 3.5	max 0.15	0.005 - 0.1	0.05 - 0.25	0.2 - 0.45	0.5 - 1	max 0.15	all 0.6

Comment: **Al** is a basis; the percentage of **Al** is given approximately.

Mechanical properties under T=20°C for grade AK8M3ch (AK8M3ч)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			215-392		1-5			

Brinell hardness for AK8M3ch (AK8M3ч) , Casting GOST 1583-93	HB 10 ⁻¹ = 60 - 90 MPa
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Physical properties for grade AK8M3ch (AK8M3ч)

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	0.72			2730		
100		22.9	130		920	

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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