

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK8M (AK8M).

Grade :	AK8M (AK8M) (АЛ32)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AK8M (AK8M)

Fe	Si	Mn	Ti	Al	Cu	Zr	Mg	Zn	Impurity
max 0.9	7.5 - 9	0.3 - 0.5	0.1 - 0.3	86.9 - 90.8	1 - 1.5	max 0.1	0.3 - 0.5	max 0.3	all 1.1

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

Mechanical properties under T=20°C for grade AK8M (AK8M)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			176-284		0.5-2			

Brinell hardness for AK8M (AK8M) , Casting GOST 1583-93	HB 10 ⁻¹ = 60 - 90 MPa
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Physical properties for grade AK8M (AK8M)

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	0.71			2650		
100		20.4				

Equivalent steels for grade AK8M (AK8M)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	England	China
-	DIN, WNr	BS	GB
327 328.0 A03280	G-AlSi8Cu3	LM27	ZAlSi8Cu1Mg ZL106

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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