

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK8L (AK8Л).

Grade :	AK8L (AK8Л) (ВАП5 АЛ34)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AK8L (AK8Л)

Fe	Si	Mn	Ti	Al	Cu	Zr	B	Be	Mg	Zn	Impurity
max 0.6	6.5 - 8.5	max 0.1	0.1 - 0.3	89.25 - 92.9	max 0.3	max 0.2	max 0.1	0.15 - 0.4	0.35 - 0.55	max 0.3	all 1

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

Mechanical properties under T=20°C for grade AK8L (AK8Л)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
cast in a metal mould, GOST 1583-93			274-333		4-6			
sand (mould) casting, GOST 1583-93			255-294		2-4			
die casting, GOST 1583-93			176-206		1-2.5			

Brinell hardness for AK8L (AK8Л) , cast in a metal mould GOST 1583-93	HB 10 ⁻¹ = 80 - 90 MPa
Brinell hardness for AK8L (AK8Л) , sand (mould) casting GOST 1583-93	HB 10 ⁻¹ = 70 - 85 MPa
Brinell hardness for AK8L (AK8Л) , die casting GOST 1583-93	HB 10 ⁻¹ = 60 - 80 MPa

Technological properties of the material AK8L (AK8Л) .

Linear shrinkage :	1.1 %
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Physical properties for grade AK8L (AK8Л)

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				2630		46.2
100		20.7	155		840	

Equivalent steels for grade AK8L (AK8Л)

Warning! Indicated both exact and nearest equivalents.

USA	France	China
-	AFNOR	GB
358.0	A-S7G	ZAlSi8MgBe ZL116

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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