

Database of Steel and Alloy (Marochnik)

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[Home](#) [European steel grades](#) [Steel and Alloy](#) [Search](#) [Equivalent grades](#) [Grading](#) [GOST Standard](#) [Contacts](#)

YOU HERE: [Steel and Alloy](#) -> [Aluminium alloy](#)

Characteristics for grade AK7ch (AK7ч).

Grade :	AK7ch (AK7ч) (АЛ9)
Classification :	Aluminium casting alloys
Equivalent grades:	Go here

Chemical composition in % for grade AK7ch (AK7ч)

Fe	Si	Mn	Al	Cu	Pb	Be	Mg	Zn	Sn	Impurity	-
max 1.5	6 - 8	max 0.5	89.6 - 93.8	max 0.2	max 0.05	max 0.1	0.2 - 0.4	max 0.3	max 0.01	all 2	Ti+Zr<0.15

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

Mechanical properties under T=20°C for grade AK7ch (AK7ч)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			137-225		1-4			

Brinell hardness for AK7ch (AK7ч) , Casting GOST 1583-93	HB 10 ⁻¹ = 45 - 70 MPa
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Technological properties of the material AK7ch (AK7ч).

Linear shrinkage :	1 %
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Physical properties for grade AK7ch (AK7ч)

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	0.7			2660		45.7
100		21.8	155		880	

Equivalent steels for grade AK7ch (AK7ч)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	China	Inter
-	DIN, WNr	JIS	AFNOR	BS	GB	ISO
323 356.0 A03560	G-AlSi7Mg	AC4C	A-S7G AS7G03	LM25	HZL101 ZAlSi7Mg ZL101 ZL11	AlSi7Mg AlSi7Mg(Fe)

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

[Top](#)

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