

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK7pch (AK7пч).

Grade :	AK7pch (AK7пч) (АЛ9-1)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AK7pch (AK7пч)

Fe	Si	Mn	Ti	Al	Cu	Zr	B	Pb	Be	Mg	Zn	Sn	Impurity
max 0.3	7 - 8	max 0.1	0.08 - 0.15	90.37 - 92.67	max 0.1	max 0.15	max 0.1	max 0.03	max 0.1	0.25 - 0.4	max 0.2	max 0.005	all 0.6

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

Mechanical properties under T=20°C for grade AK7pch (AK7пч)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			167-294		1-5			

Brinell hardness for AK7pch (AK7пч) , Casting GOST 1583-93	HB 10 ⁻¹ = 45 - 70 MPa
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Physical properties for grade AK7pch (AK7пч)

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 AK7pch (AK7пч)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	China	Inter
-	DIN, WNr	JIS	AFNOR	GB	ISO
336 A356.0 A3560	G- AlSi7Mg G- AlSi7Mgwa GK- AlSi7Mgwa	AC4CH	A-S7G03	Z AlSi7MgA ZL101A	AlSi7Mg

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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