

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK5Mch (AK5Mч).

Grade :	AK5Mch (AK5Mч) (АП5-1)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AK5Mch (AK5Mч)

Fe	Si	Mn	Ti	Al	Cu	Zr	B	Mg	Zn	Sn	Impurity
max 0.3	4.5 - 5.5	max 0.1	0.08 - 0.15	91.34 - 94.02	1 - 1.5	max 0.15	max 0.1	0.4 - 0.55	max 0.3	max 0.01	all 0.6

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

Mechanical properties under T=20°C for grade AK5Mch (AK5Mч)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			176-206		1-1.5			

Brinell hardness for AK5Mch (AK5Mч) , Casting GOST 1583-93	HB 10 ⁻¹ = 65 - 70 MPa
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Physical properties for grade AK5Mch (AK5Mч)

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			2680		46.2
100		23.1	163		838	

Equivalent steels for grade AK5Mch (AK5Mч)

Warning! Indicated both exact and nearest equivalents.

USA	Japan	China
-	JIS	GB
A305.0 A33550	AC4D	ZA5Si5Cu1MgA ZL105A

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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