

Database of Steel and Alloy (Marochnik)

splat.kharkov.com/en

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

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

Characteristics for grade AK5M7 (AK5M7).

Grade :	AK5M7 (AK5M7) (АЛ10В)
Classification :	Aluminium casting alloys
Equivalent grades:	Go here

Chemical composition in % for grade AK5M7 (AK5M7)

Fe	Si	Mn	Ni	Al	Cu	Mg	Zn	Impurity	-
max 1.3	4.5 - 6.5	max 0.5	max 0.5	82.3 - 89.3	6 - 8	0.2 - 0.5	max 0.6	all 2.7	Pb + Sn + Sb < 0.3

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

Mechanical properties under T=20°C for grade AK5M7 (AK5M7)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			118-167					

Brinell hardness for AK5M7 (AK5M7) , Casting GOST 1583-93	HB 10 ⁻¹ = 70 - 90 MPa
---	-----------------------------------

Technological properties of the material AK5M7 (AK5M7).

Casting temperature :	710 °C
Linear shrinkage :	1.25 %

Physical properties for grade AK5M7 (AK5M7)

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				2850		
100		22				

Equivalent steels for grade AK5M7 (AK5M7)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	England	China
-	DIN, WNr	BS	GB
238.0	G—AlSi(Cu)	LM1	ZL110

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](#)

© 2003 - 2013 All rights reserved. [About program.](#)

The entire risk as to use of the Database of Steel and Alloy (Marochnik) content is assumed by you the user

