

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 AK12M2MgN (AK12M2MrH).

Grade :	AK12M2MgN (AK12M2MrH) (АП25)
Classification :	Aluminium casting alloys
Equivalent grades:	Go here

Chemical composition in % for grade AK12M2MgN (AK12M2MrH)

Fe	Si	Mn	Ni	Cr	Ti	Al	Cu	Pb	Mg	Zn	Sn	Impurity
max 0.8	11 - 13	0.3 - 0.6	0.8 - 1.3	max 0.2	0.05 - 0.2	79.5 - 85.55	1.5 - 3	max 0.1	0.8 - 1.3	max 0.5	max 0.02	all 1.3

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

Mechanical properties under T=20°C for grade AK12M2MgN (AK12M2MrH)

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			186					

Brinell hardness for AK12M2MgN (AK12M2MrH) , GOST 1583-93

HB 10 ⁻¹ = 90 MPa

Technological properties of the material AK12M2MgN (AK12M2MrH) .

Casting temperature :	700 °C
Linear shrinkage :	1.15 %

Physical properties for grade AK12M2MgN (AK12M2MrH)

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				2720		
100		19				

Equivalent steels for grade AK12M2MgN (AK12M2MrH)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	China	Poland	Czechia	Inter
-	DIN, WNr	JIS	AFNOR	BS	EN	GB	PN	CSN	ISO
385.0 A23320	G-AlSi12Cu	AC8A	A-S11UNG	LM13	ENAC-48000 ENAC-AlSi12CuNiMg	ZAISi12Cu2Mg1 ZL108	AlSi13Mg1CuNi	424336	AlSi12CuNiMg

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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