

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 VAL10M (БАЛ10М).

Grade :	VAL10M (БАЛ10М)
Classification :	Aluminium casting alloys
Equivalent grades:	Is absent

Chemical composition in % for grade VAL10M (БАЛ10М)

Si	Mn	Ti	Al	Cu	Cd
0.5 - 2.5	0.3 - 0.8	0.1 - 0.3	90.1 - 94.5	4.5 - 6	0.1 - 0.3

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

Mechanical properties under T=20°C for grade VAL10M (БАЛ10М)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			441		4			
cast in a metal mould			500	360	6			

Brinell hardness for VAL10M (БАЛ10М) ,	HB 10 ⁻¹ = 120 MPa
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Technological properties of the material VAL10M (БАЛ10М) .

Linear shrinkage :	1.2 %
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Physical properties for grade VAL10M (БАЛ10М)

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	0.72			2800		
100		24.1			880	

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

[Top](#)

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