

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AL8 (АЛ8).

Grade :	AL8 (АЛ8)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AL8 (АЛ8)

Fe	Si	Mn	Ti	Al	Cu	Zr	Be	Mg	Zn	Impurity
max 0.3	max 0.3	max 0.1	max 0.07	89 - 90.5	max 0.1	max 0.2	max 0.07	9.5 - 10	max 0.1	all 1

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

Mechanical properties under T=20°C for grade AL8 (АЛ8)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
sand (mould) casting			320	170	11		1000	

Brinell hardness for AL8 (АЛ8) , sand (mould) casting	HB 10 ⁻¹ = 70 MPa
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Technological properties of the material AL8 (АЛ8) .

Linear shrinkage :	1.3 %
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Physical properties for grade AL8 (АЛ8)

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			2550		91.2
100		24.5	96.4		1050	

Equivalent steels for grade AL8 (АЛ8)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	England	China	Inter
-	DIN, WNr	JIS	BS	GB	ISO
A05200	G-AMg10	AC7B	LM10	ZAlMg10 ZL301	AlMg10

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) conduction 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 than 2500 steels and alloys (stainless steel, alloy steel, carbon 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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