

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK4-1 (AK4-1).

Grade :	AK4-1 (AK4-1) (1141)
Classification :	Aluminium wrought alloys
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Chemical composition in % for grade AK4-1 (AK4-1)

Fe	Si	Mn	Ni	Cr	Ti	Al	Cu	Mg	Zn	Impurity
0.8 - 1.4	max 0.35	max 0.2	0.8 - 1.4	max 0.1	0.02 - 0.1	93.05 - 95.28	1.9 - 2.7	1.2 - 1.8	max 0.3	other, each 0.05; all 0.1

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

Mechanical properties under T=20°C for grade AK4-1 (AK4-1)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Sheet			380	310	6		200	
Bar, GOST 21488-97			365-390	275-315	6			Quenching and artificial aging
Bar, GOST 51834-2001			390	335	6			Quenching and artificial aging
Profile			400	330	8			
Plate, GOST 17232-99			385-390	295-325	6			Quenching and artificial aging

Brinell hardness for AK4-1 (AK4-1) ,	HB 10⁻¹ = 109 - 117 MPa
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Physical properties for grade AK4-1 (AK4-1)

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		55
100		20.8	146		797	

Equivalent steels for grade AK4-1 (AK4-1)

Warning! Indicated both exact and nearest equivalents.

USA	Japan	France	England	European	Poland	Czechia
-	JIS	AFNOR	BS	EN	PN	CSN
AA2018	2018	A-U4N	2618A	ENAW-2618A	AlCu2Mg2Ni1	424218

AA2218 AA2618	2218 2618			ENAW- AlCu2Mg1.5Ni		
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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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