

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AK4 (AK4).

Grade :	AK4 (AK4)(1140)
Classification :	Aluminium wrought alloys
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Chemical composition in % for grade AK4 (AK4)

Fe	Si	Mn	Ni	Ti	Al	Cu	Mg	Zn	Impurity
0.8 - 1.3	0.5 - 1.2	max 0.2	0.8 - 1.3	max 0.1	91.2 - 94.6	1.9 - 2.5	1.4 - 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 (AK4)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 21488-97			335		8			Quenching and artificial aging
Bar, GOST 51834-2001			375	275	8			Quenching and artificial aging
Forging			360	260	3			
Profile, GOST 8617-81			335		8			

Brinell hardness for AK4 (AK4) ,	HB 10⁻¹ = 100 MPa
Brinell hardness for AK4 (AK4) (quenching, ageing) ,	HB 10⁻¹ = 120 MPa

Physical properties for grade AK4 (AK4)

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		180	2770		
100		22				

Equivalent steels for grade AK4 (AK4)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England
-	DIN, WNr	JIS	AFNOR	BS
2618	2618	1618	A-U4N	717 724

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

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