

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 AD1 (АД1).

Grade :	AD1 (АД1) (1013)
Classification :	Technical aluminium
Equivalent grades:	Go here

Chemical composition in % for grade AD1 (АД1)

Fe	Si	Mn	Ti	Al	Cu	Mg	Zn	Impurity
max 0.3	max 0.3	max 0.025	max 0.15	min 99.3	max 0.05	max 0.05	max 0.1	other, each 0.05;

Mechanical properties under T=20°C for grade AD1 (АД1)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe, GOST 18482-79			60		20			
Pipe annealed , GOST 18475-82			60-110		20			
Pipe cold-w orked , GOST 18475-82			100-110		4-5			
Bar, GOST 21488-97			60		25			
Band cold-w orked , GOST 13726-97			130-145		3-5			
Band annealed , GOST 13726-97			60		20-30			
Profile, GOST 8617-81			59		20			
Profile cold-w orked , GOST 18591-91			98					

Physical properties for grade AD1 (АД1)

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	0.71			2710		29.2
100		24	226			
200		25.6				
T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹

Equivalent steels for grade AD1 (АД1)

Warning! Indicated both exact and nearest equivalents.

USA	European	Inter
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-	EN	ISO
AA1135	ENAW-1235	A199.3
AA1145	ENAW-Al99.35	
AA1230		
AA1235		
AA1345		

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 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

[Top](#)

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