

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AMg1 (AMr1).

Grade :	AMg1 (AMr1) (1510)
Classification :	Aluminium wrought alloys
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Chemical composition in % for grade AMg1 (AMr1)

Fe	Si	Mn	Cr	Al	Cu	Mg	Zn	Impurity
max 0.7	max 0.3	max 0.2	max 0.1	97.15 - 99.5	max 0.2	0.5 - 1.1	max 0.25	other, each 0.05; all 0.15

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

Mechanical properties under T=20°C for grade AMg1 (AMr1)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe annealed , GOST 18475-82			120-175		10			
Pipe cold-worked , GOST 18475-82			165					

Technological properties for grade AMg1 (AMr1)

Weldability:	without limitations.
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Physical properties for grade AMg1 (AMr1)

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				2690		

Equivalent steels for grade AMg1 (AMr1)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	Italy	Inter
-	DIN, WNr	JIS	AFNOR	UNI	ISO
AA5005 AA5006	3.3315 AMg1	5005	A-G0.6	P-AMg0.9	5005 AMg1

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]

Weldability :

- without limitations** - welding is done without heating and subsequent heat treating
limited weldability - welding is possible under heating up to 100-120 grade and subsequent heat treating
hard weldability - obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treating is annealing

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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