

Database of Steel and Alloy (Marochnik)

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Characteristics for grade D12 (Д12).

Grade :	D12 (Д12)
Classification :	Aluminium wrought alloys
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Chemical composition in % for grade D12 (Д12)

Fe	Si	Mn	Al	Cu	Mg	Zn	Impurity
max 0.7	max 0.3	1 - 1.5	95.7 - 98.2	max 0.25	0.8 - 1.3	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 D12 (Д12)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band annealed , GOST 13726-97			155		14			
Band cold-worked , GOST 13726-97			220		3			

Physical properties for grade D12 (Д12)

T	$E \cdot 10^{-5}$	$\alpha \cdot 10^6$	λ	ρ	C	$R \cdot 10^9$
Grade	MPa	1/Grade	Watt/(m·Grade)	kg/m ³	J/(kg·Grade)	Ohm·m
20				2720		

Equivalent steels for grade D12 (Д12)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	European	Inter
-	DIN, WNr	JIS	AFNOR	EN	ISO
AA3004 AA3104	3.0526 3.3527 AlMgMn AlMn1Mg1	3004	A-M1G	ENAW-3004 ENAW-AlMn1Mg1	3004 AlMn1Mg1

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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