

Database of Steel and Alloy (Marochnik)

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Characteristics for grade D16 (Д16).

Grade :	D16 (Д16) (1160)
Classification :	Aluminium wrought alloys
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Chemical composition in % for grade D16 (Д16)

Fe	Si	Mn	Cr	Ti	Al	Cu	Mg	Zn	Impurity	-
max 0.5	max 0.5	0.3 - 0.9	max 0.1	max 0.15	90.9 - 94.7	3.8 - 4.9	1.2 - 1.8	max 0.25	other, each 0.05; all 0.15	Ti+Zr < 0.2

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

Mechanical properties under T=20°C for grade D16 (Д16)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Pipe, GOST 18482-79			390- 420	255- 275	10-12			
Bar, GOST 21488-97			245	120	12			
Bar, GOST 21488-97	Ø 8 - 300		390- 410	275- 295	8-10			Hardening and ageing
Bar, GOST 51834-2001			450- 470	325- 345	8-10			Hardening and ageing
Bar, GOST 51834-2001			410	265	12			Hardening and ageing
Band annealed , GOST 13726-97			235		10			
Profile, GOST 8617-81	10 - 150		412	284	10			Quenching and artificial aging
Profile annealed , GOST 8617-81			245		12			
Plate , GOST 17232-99			345- 420	245- 275	3-7			Hardening and ageing

Brinell hardness for D16 (Д16) (quenching, ageing) ,	HB 10 ⁻¹ = 105 MPa
Brinell hardness for D16 (Д16) , annealed	HB 10 ⁻¹ = 42 MPa

Physical properties for grade D16 (Д16)

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			2770		
100		22.9	130		0.922	

Equivalent steels for grade D16 (Д16)

Warning! Indicated both exact and nearest equivalents.

USA	Germany	Japan	France	England	European	Italy	Poland	Czechia	Austria	Switzerland	Inter
-	DIN, WNr	JIS	AFNOR	BS	EN	UNI	PN	CSN	ONORM	SNV	ISO
2024 AA2024 AA2124	3.1355 AlCuMg2	2024	2024 A-U4GI	2024	ENAW-2024 ENAW- AlCu4Mg1	P- AlCu4.4MgMn	AlCu4Mg2	424203	AlCuMg2	Al4Cu1.2Mg	2024 AlCu4Mg1 AlCuMg1

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

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