

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AM4.5Kd (AM4.5Kd).

Grade :	AM4.5Kd (AM4.5Kd) (ВАП10)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AM4.5Kd (AM4.5Kd)

Fe	Si	Mn	Ti	Al	Cu	Zr	Mg	Zn	Cd	Impurity
max 0.15	max 0.2	0.35 - 0.8	0.15 - 0.35	93.1 - 95	4.5 - 5.1	max 0.15	max 0.05	max 0.1	0.07 - 0.25	all 0.6

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

Mechanical properties under T=20°C for grade AM4.5Kd (AM4.5Kd)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			294-490		4-12			

Brinell hardness for AM4.5Kd (AM4.5Kd) , Casting GOST 1583-93	HB 10 ⁻¹ = 70 - 120 MPa
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Technological properties of the material AM4.5Kd (AM4.5Kd) .

Linear shrinkage :	1.25 %
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Physical properties for grade AM4.5Kd (AM4.5Kd)

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				2800		
100		25.1				

Equivalent steels for grade AM4.5Kd (AM4.5Kd)

Warning! Indicated both exact and nearest equivalents.

USA	Japan	France
-	JIS	AFNOR
201.0 382	AC1B	A-U5GT

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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