

Database of Steel and Alloy (Marochnik)

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Characteristics for grade Cu (Cu).

Grade :	Cu (Cu)
Classification :	High-temperature bronzes
Equivalent grades:	Is absent

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

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

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
			245	157	50	90	1666	

Brinell hardness for Cu (Cu) , deformed	HB 10 ⁻¹ = 100 MPa
Brinell hardness for Cu (Cu) , annealed	HB 10 ⁻¹ = 45 MPa

Technological properties of the material Cu (Cu) .

Melting temperature :	1083 °C
Forging temperature :	800 - 950 °C
Annealing temperature :	500 - 700 °C

Physical properties for grade Cu (Cu)

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	1.29	16.8	394	8940		17.2

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 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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