

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrKMts3-1 (БpKMц3-1).

Grade :	BrKMts3-1 (БpKMц3-1) (CuSi3Mn1)
Classification :	Tin-free pressure-worked bronzes
Equivalent grades:	Go here

Chemical composition in % for grade BrKMts3-1 (БpKMц3-1)

Fe	Si	Mn	Ni	Cu	Pb	Zn	Sn	Impurity
max 0.3	2.7 - 3.5	1 - 1.5	max 0.2	94 - 96.3	max 0.03	max 0.5	max 0.25	all 1

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

Mechanical properties under T=20°C for grade BrKMts3-1 (БpKMц3-1)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 1628-78			490		10-15			
Bar, GOST 1628-78			340		20			
Wire, GOST 5222-72			760-880					
Strip, GOST 4748-92			350		28-35			
Strip, GOST 4748-92			590-760		2-5			

Brinell hardness for BrKMts3-1 (БpKMц3-1) , Bar GOST 1628-78	HB 10 ⁻¹ = 65 MPa
Brinell hardness for BrKMts3-1 (БpKMц3-1) , Bar GOST 1628-78	HB 10 ⁻¹ = 150 MPa
Brinell hardness for BrKMts3-1 (БpKMц3-1) , soft	HB 10 ⁻¹ = 70 - 90 MPa

Friction coefficient of the material BrKMts3-1 (БpKMц3-1) .

Friction coefficient with oil :	0.013
Friction coefficient without oil :	0.4

Technological properties of the material BrKMts3-1 (БpKMц3-1) .

Forging temperature :	750 - 850 °C
Annealing temperature :	700 - 750 °C

Physical properties for grade BrKMts3-1 (БpKMц3-1)

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	1.15		46	8470		150
100		18			377	

Equivalent steels for grade BrKMts3-1 (БpKMц3-1)

Warning! Indicated both exact and nearest equivalents.

USA	England	European	Italy	Poland	Czechia	Austria	Inter
-	BS	EN	UNI	PN	CSN	ONORM	ISO
C65500 C65800	CS101	CuSi3Mn1 CW116C	PCuSiMn1	CuSi3Mn1	423053	CuSi3Mn	CuSi3Mn1

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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