

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrMts5 (БpMц5).

Grade :	BrMts5 (БpMц5)
Classification :	Tin-free pressure-worked bronzes
Equivalent grades:	Is absent

Chemical composition in % for grade BrMts5 (БpMц5)

Fe	Si	Mn	P	Cu	Pb	Zn	Sn	Impurity
max 0.35	max 0.1	4.5 - 5.5	max 0.01	93.6 - 95.5	max 0.03	max 0.4	max 0.1	all 0.9

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

Mechanical properties under T=20°C for grade BrMts5 (БpMц5)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
soft			300-360		35-45			
hard			500-600		5-6			

Brinell hardness for BrMts5 (БpMц5), soft	HB 10 ⁻¹ = 70 - 90 MPa
Brinell hardness for BrMts5 (БpMц5), hard	HB 10 ⁻¹ = 150 - 170 MPa

Friction coefficient of the material BrMts5 (БpMц5).

Friction coefficient with oil :	0.013
Friction coefficient without oil :	0.7

Technological properties of the material BrMts5 (БpMц5).

Melting temperature :	1047 °C
Forging temperature :	750 - 850 °C

Physical properties for grade BrMts5 (БpMц5)

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	1.05			8600		200
100		20.4				

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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