

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrA10ZH3Mts2 (БpA10Ж3Mц2).

Grade :	BrA10ZH3Mts2 (БpA10Ж3Mц2)
Classification :	Tin-free foundry bronzes
Equivalent grades:	Is absent

Chemical composition in % for grade BrA10ZH3Mts2 (БpA10Ж3Mц2)

Fe	Si	Mn	Ni	P	Al	Cu	As	Pb	Zn	Sb	Sn	Impurity
2 - 4	max 0.1	1 - 3	max 0.5	max 0.01	9 - 11	81 - 88	max 0.01	max 0.3	max 0.5	max 0.05	max 0.1	all 1

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

Mechanical properties under T=20°C for grade BrA10ZH3Mts2 (БpA10Ж3Mц2)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
cast in a metal mould, GOST 493-79			490		12			
sand (mould) casting, GOST 493-79			392		10			

Brinell hardness for BrA10ZH3Mts2 (БpA10Ж3Mц2) , cast in a metal mould GOST 493	HB 10 ⁻¹ = 120 MPa
Brinell hardness for BrA10ZH3Mts2 (БpA10Ж3Mц2) , sand (mould) casting GOST 493	HB 10 ⁻¹ = 100 MPa

Friction coefficient of the material BrA10ZH3Mts2 (БpA10Ж3Mц2) .

Friction coefficient with oil :	0.012
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Technological properties of the material BrA10ZH3Mts2 (БpA10Ж3Mц2) .

Melting temperature :	1045 °C
Linear shrinkage :	2.4 %

Physical properties for grade BrA10ZH3Mts2 (БpA10Ж3Mц2)

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	0.98		58.6	7500		189
100		16				

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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