

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrO8S12 (БpO8C12).

Grade :	BrO8S12 (БpO8C12)
Classification :	Tin foundry 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 BrO8S12 (БpO8C12)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
cast in a metal mould			145-195	115				
sand (mould) casting			145-175	100	3-8		98-137	

Brinell hardness for BrO8S12 (БpO8C12), cast in a metal mould	HB 10⁻¹ = 78.5 - 118 MPa
Brinell hardness for BrO8S12 (БpO8C12), sand (mould) casting	HB 10⁻¹ = 68.5 - 98 MPa

Friction coefficient of the material BrO8S12 (БpO8C12).

Friction coefficient with oil :	0.005
Friction coefficient without oil :	0.1

Technological properties of the material BrO8S12 (БpO8C12).

Melting temperature :	940 °C
Casting temperature :	1150 °C
Linear shrinkage :	1.4 %

Physical properties for grade BrO8S12 (БpO8C12)

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	0.735			9100		
100		17.1				

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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