

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrO10F1 (БpO10Φ1).

Grade :	BrO10F1 (БpO10Φ1)
Classification :	Tin foundry bronzes
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Chemical composition in % for grade BrO10F1 (БpO10Φ1)

Fe	Si	P	Al	Cu	Pb	Zn	Sb	Sn	Impurity
max 0.2	max 0.02	0.4 - 1.1	max 0.02	86.9 - 90.6	max 0.3	max 0.3	max 0.3	9 - 11	all 1

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

Mechanical properties under T=20°C for grade BrO10F1 (БpO10Φ1)

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 613-79			245		3			Without heat treatment
sand (mould) casting, GOST 613-79			215		3			Without heat treatment

Brinell hardness for BrO10F1 (БpO10Φ1) (without heat treatment), cast in a metal mould GOST 613-79	HB 10 ⁻¹ = 90 MPa
Brinell hardness for BrO10F1 (БpO10Φ1) (without heat treatment), sand (mould) casting GOST 613-79	HB 10 ⁻¹ = 80 MPa

Friction coefficient of the material BrO10F1 (БpO10Φ1).

Friction coefficient with oil :	0.008
Friction coefficient without oil :	0.15
Friction coefficient in sea :	0.37

Technological properties of the material BrO10F1 (БpO10Φ1).

Melting temperature :	934 °C
Linear shrinkage :	1.44 %

Physical properties for grade BrO10F1 (БpO10Φ1)

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	1.03	17		8760	
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Equivalent steels for grade BrO10F1 (БpO10Φ1)

Warning! Indicated both exact and nearest equivalents.

Germany	England	European	Poland	Czechia	Inter
DIN, WNr	BS	EN	PN	CSN	ISO
CuSn10P	PB1	CC481K CuSn11P-C	CuSn10P	423120	CuSn10P

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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