

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrOTS4-3 (БpOЦ4-3).

Grade :	BrOTS4-3 (БpOЦ4-3)
Classification :	Wrought tin bronzes
Equivalent grades:	Is absent

Chemical composition in % for grade BrOTS4-3 (БpOЦ4-3)

Fe	Si	Ni	P	Al	Cu	Pb	Zn	Sb	Bi	Sn	Impurity
max 0.05	max 0.002	max 0.3	max 0.03	max 0.002	92.2 - 93.8	max 0.02	2.7 - 3.3	max 0.002	max 0.002	3.5 - 4	all 0.2

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

Mechanical properties under T=20°C for grade BrOTS4-3 (БpOЦ4-3)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Bar, GOST 10025-78	Ø 42 - 120		270		35			
Bar, GOST 10025-78	Ø 5 - 40		310-430		12-20			
Wire, GOST 5221 - 2008			760-880		0.5-2			
Strip, GOST 1789-70			290	110	35-38			
Strip, GOST 1789-70			540-690	510-670	2-4			

Brinell hardness for BrOTS4-3 (БpOЦ4-3) , soft	HB 10 ⁻¹ = 50 - 70 MPa
Brinell hardness for BrOTS4-3 (БpOЦ4-3) , hard	HB 10 ⁻¹ = 150 - 170 MPa

Technological properties of the material BrOTS4-3 (БpOЦ4-3).

Melting temperature :	1045 °C
Forging temperature :	700 - 800 °C
Annealing temperature :	550 - 650 °C

Physical properties for grade BrOTS4-3 (БpOЦ4-3)

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	1.22		84	8800		90

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 than 2500 steels and alloys (stainless steel, alloy steel, carbon 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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