

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrBNT1.9 (БpБHT1.9).

Grade :	BrBNT1.9 (БpБHT1.9) (CuBe2NiTi)
Classification :	Tin-free pressure-worked bronzes
Equivalent grades:	Is absent

Chemical composition in % for grade BrBNT1.9 (БpБHT1.9)

Fe	Si	Ni	Ti	Al	Cu	Pb	Be	Impurity
max 0.15	max 0.15	0.2 - 0.4	0.1 - 0.25	max 0.15	96.75 - 97.85	max 0.005	1.85 - 2.1	all 0.5

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

Mechanical properties under T=20°C for grade BrBNT1.9 (БpБHT1.9)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Strip, GOST 1789-70			390-590		20-30			
Strip, GOST 1789-70			590-930		2.5			
soft , GOST 1789-70			400-600	196-314	30-50			
hard , GOST 1789-70			600-900	588-930	1-3			

Brinell hardness for BrBNT1.9 (БpБHT1.9) , soft	HB 10⁻¹ = 120 - 140 MPa
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Technological properties of the material BrBNT1.9 (БpБHT1.9) .

Melting temperature :	860 °C
Forging temperature :	700 - 800 °C
Annealing temperature :	530 - 650 °C

Physical properties for grade BrBNT1.9 (БpБHT1.9)

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	1.3		100	8300		90
100		16.5				

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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