

Database of Steel and Alloy (Marochnik)

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Characteristics for grade BrA7 (БpA7).

Grade :	BrA7 (БpA7) (CuA18)
Classification :	Tin-free pressure-worked bronzes
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Chemical composition in % for grade BrA7 (БpA7)

Fe	Si	Mn	P	Al	Cu	Pb	Zn	Sn	Impurity
max 0.5	max 0.1	max 0.5	max 0.01	6 - 8	90.9 - 94	max 0.03	max 0.5	max 0.1	all 1.1

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

Mechanical properties under T=20°C for grade BrA7 (БpA7)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Band, GOST 1048- 79			570-780	470-760	3-5			
soft			440-500		65-75			
hard			950-1030		2-4			

Brinell hardness for BrA7 (БpA7) , soft	HB 10 ⁻¹ = 65 - 75 MPa
Brinell hardness for BrA7 (БpA7) , hard	HB 10 ⁻¹ = 200 - 220 MPa

Friction coefficient of the material BrA7 (БpA7) .

Friction coefficient with oil :	0.012
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Technological properties of the material BrA7 (БpA7) .

Melting temperature :	1040 °C
Forging temperature :	750 - 850 °C
Annealing temperature :	600 - 700 °C

Physical properties for grade BrA7 (БpA7)

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	1.2		80	7800		110

100

17.8

Equivalent steels for grade BrA7 (БpA7)

Warning! Indicated both exact and nearest equivalents.

Germany
DIN,WNr
2.0920
CuAl8

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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