

# Database of Steel and Alloy (Marochnik)

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## Characteristics for grade BrO8N4TS2 ( БpO8H4Ц2 ).

|                           |                        |
|---------------------------|------------------------|
| <b>Grade :</b>            | BrO8N4TS2 ( БpO8H4Ц2 ) |
| <b>Classification :</b>   | Tin foundry bronzes    |
| <b>Equivalent grades:</b> | Is absent              |

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

## Mechanical properties under T=20°C for grade BrO8N4TS2 ( БpO8H4Ц2 )

| Assortment            | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment |
|-----------------------|-----------|---------|------------|------------|------------|--------|---------------------|----------------|
| -                     | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -              |
| cast in a metal mould |           |         | 345        |            | 16         |        |                     |                |
| sand (mould) casting  |           |         | 265        | 175        | 14         |        |                     |                |

|                                               |                                |
|-----------------------------------------------|--------------------------------|
| Brinell hardness for BrO8N4TS2 ( БpO8H4Ц2 ) , | HB 10 <sup>-1</sup> = 78.5 MPa |
|-----------------------------------------------|--------------------------------|

## Technological properties of the material BrO8N4TS2 ( БpO8H4Ц2 ) .

|                       |        |
|-----------------------|--------|
| Melting temperature : | 810 °C |
|-----------------------|--------|

## Physical properties for grade BrO8N4TS2 ( БpO8H4Ц2 )

| T     | E 10 <sup>-5</sup> | $\alpha$ 10 <sup>6</sup> | $\lambda$      | $\rho$            | C            | R 10 <sup>9</sup> |
|-------|--------------------|--------------------------|----------------|-------------------|--------------|-------------------|
| Grade | MPa                | 1/Grade                  | Watt/(m·Grade) | kg/m <sup>3</sup> | J/(kg·Grade) | Ohm·m             |
| 20    |                    | 17.61                    |                | 8860              |              |                   |

### Specification :

#### Mechanical properties :

- $\sigma_B$  - Tensile strength , [MPa]
- $\sigma_T$  - Yield stress , [MPa]
- $\delta_5$  - Specific elongation at fracture , [ % ]
- $\psi$  - Reduction of area , [ % ]
- KCU** - Impact strength , [ kJ / m<sup>2</sup> ]
- HB** - Brinell hardness , [MPa]

#### Physical properties :

- T** - Test temperature , [Grade]
- E** - Young modulus , [MPa]
- $\alpha$

- Coefficient of linear expansion (range  $20^{\circ} - T$ ), [1/Grade]
- $\lambda$  - Thermal (heat) conductivity coefficient, [Watt/(m·Grade)]
- $\rho$  - Density, [kg/m<sup>3</sup>]
- C** - Specific heat (range  $20^{\circ} - T$ ), [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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