

# Database of Steel and Alloy (Marochnik)

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## Characteristics for grade LTS16K4 ( ЛЦ16K4 ).

|                    |                               |
|--------------------|-------------------------------|
| Grade :            | LTS16K4 ( ЛЦ16K4 ) ( ЛК80-Л ) |
| Classification :   | Cast cooper-zinc alloys       |
| Equivalent grades: | <a href="#">Go here</a>       |

## Chemical composition in % for grade LTS16K4 ( ЛЦ16K4 )

| Fe      | Si      | Mn      | Ni      | P       | Al       | Cu      | Pb      | Zn      | Sb      | Sn      | Impurity |
|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|----------|
| max 0.6 | 3 - 4.5 | max 0.8 | max 0.2 | max 0.1 | max 0.04 | 78 - 81 | max 0.5 | 12 - 19 | max 0.1 | max 0.3 | all 2.5  |

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

## Mechanical properties under T=20°C for grade LTS16K4 ( ЛЦ16K4 )

| 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, GOST 17711-93 |           |         | 343        |            | 15         |        |                     |                |
| sand (mould) casting, GOST 17711-93  |           |         | 294        |            | 15         |        |                     |                |

|                                                                               |                               |
|-------------------------------------------------------------------------------|-------------------------------|
| Brinell hardness for LTS16K4 ( ЛЦ16K4 ) , cast in a metal mould GOST 17711-93 | HB 10 <sup>-1</sup> = 110 MPa |
| Brinell hardness for LTS16K4 ( ЛЦ16K4 ) , sand (mould) casting GOST 17711-93  | HB 10 <sup>-1</sup> = 100 MPa |

## Friction coefficient of the material LTS16K4 ( ЛЦ16K4 ).

|                                    |      |
|------------------------------------|------|
| Friction coefficient with oil :    | 0.01 |
| Friction coefficient without oil : | 0.19 |

## Technological properties of the material LTS16K4 ( ЛЦ16K4 ).

|                       |        |
|-----------------------|--------|
| Melting temperature : | 900 °C |
|-----------------------|--------|

## Physical properties for grade LTS16K4 ( ЛЦ16K4 )

| 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                       | 83.7           | 8300              |              | 200               |

## Equivalent steels for grade LTS16K4 ( ЛЦ16K4 )

Warning! Indicated both exact and nearest equivalents.

| USA              | Germany     | Japan                                 | European              | Poland      | Czechia |
|------------------|-------------|---------------------------------------|-----------------------|-------------|---------|
| -                | DIN,WNr     | JIS                                   | EN                    | PN          | CSN     |
| C87400<br>C87500 | G-CuZn15Si4 | H5112/class2<br>H5112/class3<br>SzBC2 | CC761S<br>CuZn16Si4-C | CuZn16Si3.5 | 423303  |

**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° - T ) , [1/Grade]  
 $\lambda$  - Thermal (heat) condition coefficient , [Watt/(m·Grade)]  
 $\rho$  - Density , [kg/m<sup>3</sup>]  
**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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