

# Database of Steel and Alloy (Marochnik)

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[Home](#) [European steel grades](#) [Steel and Alloy](#) [Search](#) [Equivalent grades](#) [Grading](#) [GOST Standard](#) [Contacts](#)

YOU HERE: [Steel and Alloy](#) -> [Cast iron](#)

## Characteristics for grade CHNMSH ( ЧНМШ ).

|                           |                     |
|---------------------------|---------------------|
| <b>Grade :</b>            | CHNMSH ( ЧНМШ )     |
| <b>Classification :</b>   | Low alloy cast iron |
| <b>Equivalent grades:</b> | Is absent           |

## Chemical composition in % for grade CHNMSH ( ЧНМШ )

| C         | Si        | Mn        | Ni        | S        | P       | Cr      | Mo        |
|-----------|-----------|-----------|-----------|----------|---------|---------|-----------|
| 2.8 - 3.8 | 1.7 - 3.2 | 0.8 - 1.2 | 0.8 - 1.5 | max 0.03 | max 0.1 | max 0.1 | 0.3 - 0.7 |

## Mechanical properties under T=20°C for grade CHNMSH ( ЧНМШ )

| Assortment            | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment |
|-----------------------|-----------|---------|------------|------------|------------|--------|---------------------|----------------|
| -                     | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -              |
| Casting, GOST 7769-82 |           |         | 490        |            | 2          |        |                     |                |

|                                                            |                                           |
|------------------------------------------------------------|-------------------------------------------|
| <b>Brinell hardness for CHNMSH ( ЧНМШ ) , GOST 7769-82</b> | <b>HB 10<sup>-1</sup> = 183 - 286 MPa</b> |
|------------------------------------------------------------|-------------------------------------------|

### 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]

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

[Top](#)

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