

# Database of Steel and Alloy (Marochnik)

[splat.kharkov.com/en](http://splat.kharkov.com/en)

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

YOU HERE: [Steel and Alloy](#) -> [Structural steel](#)

## Characteristics for grade 12Kh2NVFMA ( 12X2HBΦMA ).

|                           |                          |
|---------------------------|--------------------------|
| <b>Grade :</b>            | 12Kh2NVFMA ( 12X2HBΦMA ) |
| <b>Classification :</b>   | Alloy structural steel   |
| <b>Equivalent grades:</b> | Is absent                |

## Chemical composition in % for grade 12Kh2NVFMA ( 12X2HBΦMA )

| C           | Si          | Mn        | Ni        | S         | P         | Cr        | Mo          | W       | V           | Cu       |
|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-------------|---------|-------------|----------|
| 0.09 - 0.16 | 0.17 - 0.37 | 0.6 - 0.9 | 1.2 - 1.6 | max 0.025 | max 0.025 | 1.9 - 2.4 | 0.35 - 0.45 | 1 - 1.4 | 0.18 - 0.28 | max 0.25 |

## Mechanical properties under T=20°C for grade 12Kh2NVFMA ( 12X2HBΦMA )

| Assortment                 | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment        |
|----------------------------|-----------|---------|------------|------------|------------|--------|---------------------|-----------------------|
| -                          | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -                     |
| Sheet trick, GOST 11269-76 |           |         | 490-740    |            | 15         |        |                     | Normalizing           |
| Sheet trick, GOST 11269-76 |           |         | 980        |            | 11         |        | 590                 | Guenching and drawing |
| Sheet thin, GOST 11268-76  |           |         | 490-740    |            | 15         |        |                     | Normalizing           |
| Sheet thin, GOST 11268-76  |           |         | 980        |            | 11         |        |                     | Guenching and drawing |

|                                                                                             |                                           |
|---------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>Brinell hardness for 12Kh2NVFMA ( 12X2HBΦMA ) (normalize), Sheet trick GOST 11269-76</b> | <b>HB 10<sup>-1</sup> = 156 - 217 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](#)

© 2003 - 2013 All rights reserved. [About program.](#)

The entire risk as to use of the Database of Steel and Alloy (Marochnik) content is assumed by you the user



076992+0





20307389

17780

5276