

# Database of Steel and Alloy (Marochnik)

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## Characteristics for grade D32 ( D32 ).

|                           |                        |
|---------------------------|------------------------|
| <b>Grade :</b>            | D32 ( D32 )            |
| <b>Classification :</b>   | Steel for shipbuilding |
| <b>Equivalent grades:</b> | Is absent              |

## Chemical composition in % for grade D32 ( D32 )

| C           | Si            | Mn           | Ni         | S            | P            | Cr         | Mo          | N            | Al              | Cu          | As          |
|-------------|---------------|--------------|------------|--------------|--------------|------------|-------------|--------------|-----------------|-------------|-------------|
| max<br>0.18 | 0.15 -<br>0.5 | 0.9 -<br>1.6 | max<br>0.4 | max<br>0.035 | max<br>0.035 | max<br>0.2 | max<br>0.08 | max<br>0.008 | 0.015 -<br>0.06 | max<br>0.35 | max<br>0.08 |

## Mechanical properties under T=20°C for grade D32 ( D32 )

| Assortment                    | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment |
|-------------------------------|-----------|---------|------------|------------|------------|--------|---------------------|----------------|
| -                             | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -              |
| Rolled stock, GOST 5521-93    |           |         | 440-590    | 315        | 22         |        |                     |                |
| Rolled stock, GOST 52927-2008 |           |         | 440-570    | 315        | 22         |        |                     |                |

## 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

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