

# Database of Steel and Alloy (Marochnik)

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## Characteristics for grade 20KHG2T ( 20XГ2Т ).

|                           |                                                  |
|---------------------------|--------------------------------------------------|
| <b>Grade :</b>            | 20KHG2T ( 20XГ2Т )                               |
| <b>Classification :</b>   | Low alloy structural steel for welding construct |
| <b>Equivalent grades:</b> | Is absent                                        |

## Chemical composition in % for grade 20KHG2T ( 20XГ2Т )

| C           | Si        | Mn        | Ni      | S         | P         | Cr        | Ti          | Cu      |
|-------------|-----------|-----------|---------|-----------|-----------|-----------|-------------|---------|
| 0.19 - 0.26 | 0.4 - 0.7 | 1.5 - 1.9 | max 0.3 | max 0.045 | max 0.045 | 0.9 - 1.7 | 0.02 - 0.08 | max 0.3 |

## Mechanical properties under T=20°C for grade 20KHG2T ( 20XГ2Т )

| Assortment          | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment |
|---------------------|-----------|---------|------------|------------|------------|--------|---------------------|----------------|
| -                   | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -              |
| Rebar, GOST 5781-82 |           |         | 883        | 590        | 6          |        |                     |                |

## Technological properties for grade 20KHG2T ( 20XГ2Т )

|                     |                      |
|---------------------|----------------------|
| <b>Weldability:</b> | without limitations. |
|---------------------|----------------------|

### 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]

### Weldability :

- without limitations** - welding is done without heating and subsequent heat treating
- limited weldability** - welding is possible under heating up to 100-120 grade and subsequent heat treating
- hard weldability** - obtaining the quality welding needs the additional operations: heating up to 200-300 grade; the heat treating is annealing

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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