

# Database of Steel and Alloy ( Marochnik )

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## Characteristics for grade 30G2 ( 30Г2 ).

|                           |                         |
|---------------------------|-------------------------|
| <b>Grade :</b>            | 30G2 ( 30Г2 )           |
| <b>Classification :</b>   | Alloy structural steel  |
| <b>Equivalent grades:</b> | <a href="#">Go here</a> |

## Chemical composition in % for grade 30G2 ( 30Г2 )

| C           | Si          | Mn        | Ni      | S         | P         | Cr      | Cu      |
|-------------|-------------|-----------|---------|-----------|-----------|---------|---------|
| 0.26 - 0.35 | 0.17 - 0.37 | 1.4 - 1.8 | max 0.3 | max 0.035 | max 0.035 | max 0.3 | max 0.3 |

## Mechanical properties under T=20°C for grade 30G2 ( 30Г2 )

| Assortment        | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment                            |
|-------------------|-----------|---------|------------|------------|------------|--------|---------------------|-------------------------------------------|
| -                 | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -                                         |
| Bar, GOST 4543-71 | Ø 25      |         | 590        | 345        | 15         | 45     |                     | Guenching 880°C, air, Drawing 600°C, air, |

|                                                                     |                                     |
|---------------------------------------------------------------------|-------------------------------------|
| <b>Brinell hardness for 30G2 ( 30Г2 ) (annealing), GOST 4543-71</b> | <b>HB 10<sup>-1</sup> = 207 MPa</b> |
|---------------------------------------------------------------------|-------------------------------------|

## Technological properties for grade 30G2 ( 30Г2 )

|                            |                    |
|----------------------------|--------------------|
| <b>Flakes :</b>            | weakly predisposed |
| <b>Temper brittleness:</b> | predisposed        |

## Equivalent steels for grade 30G2 ( 30Г2 )

Warning! Indicated both exact and nearest equivalents.

| USA    | Germany  | Japan   | France | England | European | Italy | China | Bulgaria | Poland | Czechia |
|--------|----------|---------|--------|---------|----------|-------|-------|----------|--------|---------|
| -      | DIN, WNr | JIS     | AFNOR  | BS      | EN       | UNI   | GB    | BDS      | PN     | CSN     |
| 1132   | 1.1165   | SCMn2   | 35M5   | 120M36  | 1.1170   | 28Mn6 | 30Mn2 | 30G2     | 30G2   | 13141   |
| 1330   | 28Mn6    | SMn423H | 40M5   | 150M36  | 28Mn6    | C28Mn |       | 30GL     |        |         |
| 1330H  | 30Mn5    | SMn433  |        | En15    |          |       |       |          |        |         |
| G11320 | 36Mn5    | SMn438  |        | En15A   |          |       |       |          |        |         |
| G13300 |          |         |        |         |          |       |       |          |        |         |

## Specification : Mechanical properties :

- $\sigma_B$  - Tensile strength , [MPa]  
 $\sigma_T$  - Yield stress , [MPa]  
 $\delta_5$  - Specific elongation at fracture , [ % ]

|            |                                             |
|------------|---------------------------------------------|
| $\psi$     | - Reduction of area , [ % ]                 |
| <b>KCU</b> | - Impact strength , [ kJ / m <sup>2</sup> ] |
| <b>HB</b>  | - Brinell hardness , [MPa]                  |

**Weldability :**

|                            |                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>without limitations</b> | - welding is done without heating and subsequent heat treating                                                               |
| <b>limited weldability</b> | - welding is possible under heating up to 100-120 grade and subsequent heat treating                                         |
| <b>hard weldability</b>    | - 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 than 2500 steels and alloys (stainless steel, alloy steel, carbon steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).  
Helpful for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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