

## Database of Steel and Alloy (Marochnik)

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## Characteristics for grade SCH15 (C415).

|                    |                         |
|--------------------|-------------------------|
| Grade :            | SCH15 (C415)            |
| Classification :   | Grey cast iron          |
| Equivalent grades: | <a href="#">Go here</a> |

## Chemical composition in % for grade SCH15 (C415)

| C         | Si      | Mn        | S        | P       |
|-----------|---------|-----------|----------|---------|
| 3.5 - 3.7 | 2 - 2.4 | 0.5 - 0.8 | max 0.15 | max 0.2 |

## Mechanical properties under T=20°C for grade SCH15 (C415)

| Assortment            | Dimension | Direct. | $\sigma_B$ | $\sigma_T$ | $\delta_5$ | $\psi$ | KCU                 | Heat treatment |
|-----------------------|-----------|---------|------------|------------|------------|--------|---------------------|----------------|
| -                     | mm        | -       | MPa        | MPa        | %          | %      | kJ / m <sup>2</sup> | -              |
| Casting, GOST 1412-85 |           |         | 150        |            |            |        |                     |                |

Brinell hardness for SCH15 (C415) , GOST 1412-85

HB 10 <sup>1</sup> = 130 - 241 MPa

## Technological properties of the material SCH15 (C415) .

|                    |       |
|--------------------|-------|
| Linear shrinkage : | 1.1 % |
|--------------------|-------|

## Physical properties for grade SCH15 (C415)

| T     | E 10 <sup>-5</sup> | $\alpha$ 10 <sup>6</sup> | $\lambda$      | $\rho$            | C            | R 10 <sup>9</sup> |
|-------|--------------------|--------------------------|----------------|-------------------|--------------|-------------------|
| Grade | MPa                | 1/Grade                  | Watt/(m·Grade) | kg/m <sup>3</sup> | J/(kg·Grade) | Ohm·m             |
| 20    | 0.9                |                          | 59             | 7000              |              |                   |
| 100   |                    | 9                        |                |                   | 460          |                   |

## Equivalent steels for grade SCH15 (C415)

Warning! Indicated both exact and nearest equivalents.

| USA          | Germany  | Japan | France | England | European   | Italy | Belgium | Spain | China | Sweden  | Bulgaria | Hungary | Poland | Romania | Czechia | Austria | Australia | Inter | India | Holland | Taiwan | Luxemb |
|--------------|----------|-------|--------|---------|------------|-------|---------|-------|-------|---------|----------|---------|--------|---------|---------|---------|-----------|-------|-------|---------|--------|--------|
| -            | DIN, WNr | JIS   | AFNOR  | BS      | EN         | UNI   | NBN     | UNE   | GB    | SS      | BDS      | MSZ     | PN     | STAS    | CSN     | ONORM   | AS        | ISO   | IS    | NEN     | -      | -      |
| A48-25B      | GG15     | FC15  | FGL150 | 150     | EN-GJL-150 | G15   | FGG15   | FG15  | HT150 | 0115-00 | Vch15    | OV15    | Z115   | FC150   | 422415  | GG15    | T150      | 150   | FG150 | GG15    | FC150  | FGG1   |
| C1.25B No.25 |          | FC150 | Ft15D  | Gr.150  | EN-JL1020  |       |         |       |       | O115    |          |         | Z1150  |         |         | GG150   |           |       |       |         |        |        |

## 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]

## Physical properties :

- T - Test temperature , [Grade]
- E - Young modulus , [MPa]
- $\alpha$  - Coefficient of linear expansion ( range 20° - T ) , [1/Grade]
- $\lambda$  - Thermal (heat) condition coefficient , [Watt/(m·Grade)]
- $\rho$  - Density , [kg/m<sup>3</sup>]
- C - Specific heat ( range 20° - T ) , [J/(kg·Grade)]
- R - Electrical resistance , [Ohm·m]

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more than 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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