

MATERIAL NUMBER 1.0301 · CLASS 1.0

# 1.0301

Chemical composition, mechanical and physical property values, and 63 standard designations from 19 regions.

|                                          |                                               |                                     |
|------------------------------------------|-----------------------------------------------|-------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>63</b> in 19 regions | PROPERTY VALUES<br><b>6</b> on file |
|------------------------------------------|-----------------------------------------------|-------------------------------------|

## Chemical composition

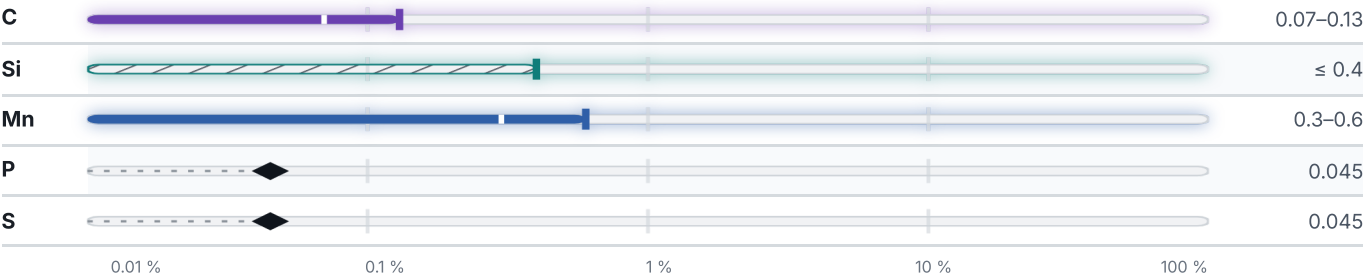
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 99 % ● Mn — 0.4 % ● Si — 0.4 % ● C — 0.1 % ● Traces & impurities · 0.1 %

Logarithmic scale, 0.01 % to 100 % — every value here compares directly, decade by decade.



The scale is logarithmic, not the element's raw share of the alloy — the only honest way to fit 0.01 % and 100 % in one picture, and it means every value here can be compared with every other.

## Predicted transformation temperatures

Not enough recorded composition to predict a transformation temperature for this grade — missing: Ni, Cr, Mo.

## Mechanical properties

11 values across 2 conditions

| COLD DRAWN / HARD | RM<br>N/mm <sup>2</sup> | A<br>% |
|-------------------|-------------------------|--------|
| 5 – 10            | 460–760                 | 8      |
| 10 – 16           | 430–730                 | 9      |

| COLD DRAWN / HARD    | RM<br>N/mm <sup>2</sup> | A<br>% |
|----------------------|-------------------------|--------|
| 16 – 40              | 400–700                 | 10     |
| 40 – 63              | 350–640                 | 12     |
| 63 – 100             | 320–580                 | 12     |
| AS ROLLED AND TURNED |                         | HB     |
| As rolled and turned |                         | 92–163 |

## Physical properties

1 values

| PROPERTY | VALUE | UNIT              |
|----------|-------|-------------------|
| Density  | 7.85  | g/cm <sup>3</sup> |

## Heat treatment

1 regimes

| STEP                                                  | TEMPERATURE | MEDIUM |
|-------------------------------------------------------|-------------|--------|
| source joins the operations with + / procedural order |             |        |
| Annealing                                             | 950 °C      | —      |
| Quenching                                             | 1050 °C     | —      |
| Tempering                                             | 750 °C      | —      |

## Designations across standards

63 designations · 3 documented as identical

| United States |                       | 13       | United Kingdom |  | 10 |
|---------------|-----------------------|----------|----------------|--|----|
| G10100        | This grade's own name | uns      | 040A04         |  | bs |
| 1010          |                       | aisi-sae | 040A10         |  | bs |
| 1011          |                       | aisi-sae | 040A12         |  | bs |
| 1012          |                       | aisi-sae | 045A10         |  | bs |
| 1110          |                       | aisi-sae | 045M10         |  | bs |
| C1010         |                       | aisi-sae | 10CS           |  | bs |
| Gr.A          |                       | aisi-sae | 10HS           |  | bs |
| M1010         | This grade's own name | aisi-sae | 1449-10CS      |  | bs |
| M1012         |                       | aisi-sae | CFS3           |  | bs |
| 012           |                       | astm     | CS10           |  | bs |
| 1006          |                       | astm     |                |  |    |
| 1008          |                       | astm     |                |  |    |
| 101           |                       | astm     |                |  |    |

|                                        |        |                      |        |
|----------------------------------------|--------|----------------------|--------|
| <b>Japan</b>                           | 8      | <b>China</b>         | 2      |
| S09CK                                  | jis    | <b>08F</b>           | gb     |
| S10C                                   | jis    | <b>10</b>            | gb     |
| S12C                                   | jis    |                      |        |
| S9CK                                   | jis    | <b>Russia / CIS</b>  | 2      |
| SASM1                                  | jis    | <b>08KП</b>          | gost   |
| STB340                                 | jis    | <b>10</b>            | gost   |
| STKM12A                                | jis    |                      |        |
| SWMR                                   | jis    | <b>Sweden</b>        | 2      |
| <b>France</b>                          | 5      | <b>1233</b>          | ss     |
| AF34                                   | afnor  | <b>1265</b>          | ss     |
| AF34C10                                | afnor  |                      |        |
| C10                                    | afnor  | <b>Spain</b>         | 1      |
| C10RR                                  | afnor  | <b>F.1511</b>        | une    |
| XC10                                   | afnor  | <b>Latin America</b> | 1      |
| <b>Italy</b>                           | 5      | <b>1010</b>          | copant |
| 1C10                                   | uni    | <b>Serbia</b>        | 1      |
| 2C10                                   | uni    | <b>Č.1120</b>        | srps   |
| C10                                    | uni    | <b>Hungary</b>       | 1      |
| C14                                    | uni    | <b>C10</b>           | msz    |
| Fe360                                  | uni    |                      |        |
| <b>Czechia</b>                         | 3      | <b>Romania</b>       | 1      |
| 11353                                  | csn    | <b>OLC10</b>         | stas   |
| 12010                                  | csn    | <b>Bulgaria</b>      | 1      |
| 12021                                  | csn    | <b>10</b>            | bds    |
| <b>Poland</b>                          | 3      | <b>Austria</b>       | 1      |
| 10                                     | pn     | <b>RC12</b>          | onorm  |
| K10                                    | pn     |                      |        |
| R35                                    | pn     | <b>Switzerland</b>   | 1      |
| <b>Europe</b>                          | 2      | <b>C10</b>           | snv    |
| C10 <span>This grade's own name</span> | din-en |                      |        |
| Ck10                                   | din-en |                      |        |

**Note on use.** The data is compiled to the best of our knowledge from publicly available standards and manufacturer documentation. It replaces neither material testing nor an inspection document to EN 10204. Please request a mill certificate to EN 10204 2.1, 3.1 or 3.2 together with your enquiry. The standard in its current valid edition always prevails.

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#### MATERIAL NO.

1.0301

#### ISSUED

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