

MATERIAL NUMBER 1.0552 · CLASS 1.0

# 1.0552

Chemical composition, mechanical and physical property values, and 26 standard designations from 13 regions.

|                                          |                                               |                                      |
|------------------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>26</b> in 13 regions | PROPERTY VALUES<br><b>17</b> on file |
|------------------------------------------|-----------------------------------------------|--------------------------------------|

## Chemical composition

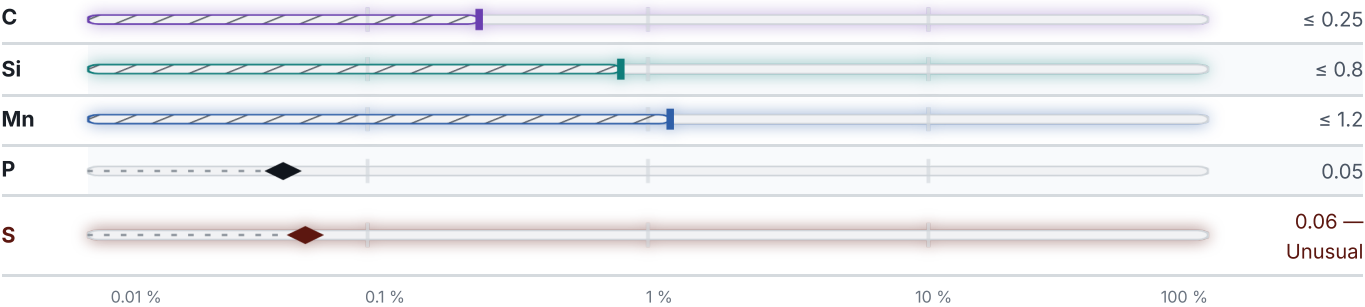
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 97.6 % ● Mn — 1.2 % ● Si — 0.8 % ● C — 0.3 % ● 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

10 values across 2 conditions

| NORMALIZING 860 - 880°C, DRAWING 600 - 630°C | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A5<br>% | Z<br>% | KCU<br>kJ/m <sup>2</sup> |
|----------------------------------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| to 100                                       | 491                     | 275                     | 15      | 25     | 343                      |

| CONDITION · DIMENSION | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A5<br>% | Z<br>% | KCU<br>kJ/m <sup>2</sup> |
|-----------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Casting, GOST 977-88  | 540                     | 343                     | 16      | 20     | 294                      |

## Physical properties

8 values

| CONDITION · DIMENSION | RHO<br>g/cm <sup>3</sup> | E<br>GPa | ALPHA<br>10 <sup>-6</sup> /K | LAMBDA<br>W/(m·K) | CP<br>J/(kg·K) | RHO_EL<br>nΩ·m |
|-----------------------|--------------------------|----------|------------------------------|-------------------|----------------|----------------|
| 20                    | 7.83                     | 212      | –                            | 53                | –              | 172            |
| 100                   | –                        | 206      | 11.1                         | 51                | 470            | 223            |
| 200                   | –                        | 201      | 12                           | 49                | 491            | 301            |
| 300                   | –                        | 192      | 12.9                         | 45                | 512            | 394            |
| 400                   | –                        | 176      | 13.5                         | 42                | 533            | 497            |
| 500                   | –                        | 163      | 13.9                         | 39                | 554            | 623            |
| 600                   | –                        | 151      | 14.5                         | 35                | 580            | 771            |
| 700                   | –                        | 131      | 14.8                         | 31                | 613            | 935            |
| 800                   | –                        | 118      | 11.9                         | 27                | 710            | 1115           |
| 900                   | –                        | –        | 12.5                         | 27                | 701            | 1154           |

| PROPERTY                 | VALUE | UNIT              |
|--------------------------|-------|-------------------|
| Density                  | 7.85  | g/cm <sup>3</sup> |
| Transformation point Ac1 | 730   | °C                |
| Transformation point Ac3 | 802   | °C                |
| Transformation point Ar3 | 795   | °C                |
| Transformation point Ar1 | 691   | °C                |

## Technological properties

| PROPERTY           | VALUE                | UNIT |
|--------------------|----------------------|------|
| Weldability        | limited weldability. |      |
| Flake sensitivity  | not predisposed      |      |
| Temper brittleness | not predisposed      |      |

## Designations across standards

26 designations · 4 documented as identical

|                                           |          |                 |       |
|-------------------------------------------|----------|-----------------|-------|
| <b>United States</b>                      | 4        | <b>Poland</b>   | 2     |
| J02501 <span>This grade's own name</span> | uns      | L500            | pn    |
| J03501 <span>This grade's own name</span> | uns      | LII500          | pn    |
| Gr1                                       | aisi-sae | <b>Hungary</b>  | 2     |
| J03502                                    | aisi-sae | <b>Ao500</b>    | msz   |
| <b>Europe</b>                             | 2        | <b>Ao500FK</b>  | msz   |
| GE 260 <span>This grade's own name</span> | din-en   | <b>Romania</b>  | 2     |
| GS-52 <span>This grade's own name</span>  | din-en   | OT500-1         | stas  |
| <b>United Kingdom</b>                     | 2        | OT500-3         | stas  |
| 161-480                                   | bs       | <b>Bulgaria</b> | 2     |
| A2                                        | bs       | 35LI            | bds   |
| <b>Japan</b>                              | 2        | 35LII           | bds   |
| SC480                                     | jis      | <b>Finland</b>  | 2     |
| SCC                                       | jis      | G-26-52         | sfs   |
| <b>China</b>                              | 2        | G-30-57         | sfs   |
| ZG270-500                                 | gb       | <b>France</b>   | 1     |
| ZGD290-510                                | gb       | 280-480M        | afnor |
| <b>Russia / CIS</b>                       | 2        | <b>Czechia</b>  | 1     |
| 35L                                       | gost     | 422650          | csn   |
| 35Л                                       | gost     |                 |       |

**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.

## Enquiry about 1.0552

Quotation, availability, mill certificate or a technical question — directly on the material page.

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## GRADE SEARCH

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## MATERIAL NO.

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## ISSUED

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