

MATERIAL NUMBER 1.0050 · CLASS 1.0

# ЖГр1.5Д5

Material no. 1.0050

also listed as E295

Chemical composition, mechanical and physical property values, and 123 standard designations from 23 regions.

|                              |                                                |                                      |
|------------------------------|------------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm³ | OTHER DESIGNATIONS<br><b>123</b> in 23 regions | PROPERTY VALUES<br><b>11</b> on file |
|------------------------------|------------------------------------------------|--------------------------------------|

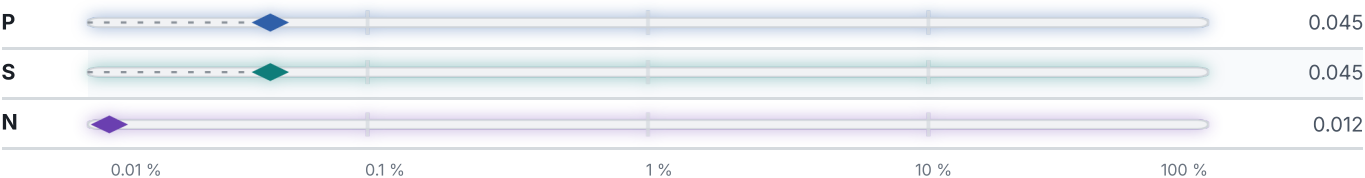
Chemical composition

Mass fraction in %

What this alloy is



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: C, Mn, Si, Ni, Cr, Mo.

Mechanical properties

36 values across 3 conditions

| FLAT AND LONG PRODUCTS | REH<br>N/mm² | RM<br>N/mm² |
|------------------------|--------------|-------------|
| ≤ 3                    | —            | 490–660     |
| 3 – 100                | —            | 470–610     |

| FLAT AND LONG PRODUCTS | REH<br>N/mm <sup>2</sup> | RM<br>N/mm <sup>2</sup> |         |        |                          |
|------------------------|--------------------------|-------------------------|---------|--------|--------------------------|
| ≤ 16                   | 295                      | –                       |         |        |                          |
| 16 – 40                | 285                      | –                       |         |        |                          |
| 40 – 63                | 275                      | –                       |         |        |                          |
| 63 – 80                | 265                      | –                       |         |        |                          |
| 80 – 100               | 255                      | –                       |         |        |                          |
| 100 – 150              | 245                      | 450–610                 |         |        |                          |
| 150 – 250              | –                        | 440–610                 |         |        |                          |
| 150 – 200              | 235                      | –                       |         |        |                          |
| CONDITION · DIMENSION  | A80<br>% · Lo = 80 mm    | A<br>% · Lo = 5,65 √So  |         |        |                          |
| ≤ 1                    | 12                       | –                       |         |        |                          |
| 1 – 1.5                | 13                       | –                       |         |        |                          |
| 1.5 – 2                | 14                       | –                       |         |        |                          |
| 2 – 2.5                | 15                       | –                       |         |        |                          |
| 2.5 – 3                | 16                       | –                       |         |        |                          |
| 3 – 40                 | –                        | 20                      |         |        |                          |
| 40 – 63                | –                        | 19                      |         |        |                          |
| 63 – 100               | –                        | 18                      |         |        |                          |
| 100 – 150              | –                        | 16                      |         |        |                          |
| 150 – 250              | –                        | 15                      |         |        |                          |
| NORMALIZING            | 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> |
| 100 - 300              | 350                      | 175                     | 24      | 50     | 590                      |
| 300 - 500              | 350                      | 175                     | 22      | 45     | 540                      |
| 500 - 800              | 350                      | 175                     | 20      | 40     | 490                      |

Physical properties

8 values

| CONDITION · DIMENSION | RHO<br>g/cm <sup>3</sup> | E<br>GPa |
|-----------------------|--------------------------|----------|
| 20                    | 7.85                     | 198      |
| 100                   | –                        | 196      |
| 200                   | –                        | 191      |

| CONDITION · DIMENSION | RHO<br>g/cm <sup>3</sup> | E<br>GPa |
|-----------------------|--------------------------|----------|
| 300                   | –                        | 185      |
| 400                   | –                        | 164      |

| PROPERTY                 | VALUE | UNIT              |
|--------------------------|-------|-------------------|
| Density                  | 7.85  | g/cm <sup>3</sup> |
| Transformation point Ac1 | 730   | °C                |
| Transformation point Ac3 | 825   | °C                |
| Transformation point Ar3 | 815   | °C                |
| Transformation point Ar1 | 690   | °C                |

**Technological properties**

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

## Designations across standards

123 designations · 3 documented as identical

|                     |      |                       |          |
|---------------------|------|-----------------------|----------|
| <b>Russia / CIS</b> | 53   | <b>ЖД10</b>           | gost     |
| 08Fkp               | gost | <b>ЖД5</b>            | gost     |
| 08GBYu              | gost | <b>МЖГ1</b>           | gost     |
| 08GDNF              | gost | <b>C285</b>           | gost     |
| 08GDNFL             | gost | <b>ст.08кп</b>        | gost     |
| 08KhGSBDP           | gost | <b>Ст5сп</b>          | gost     |
| 08KhGSDP            | gost |                       |          |
| 08KhMChA            | gost | <b>United States</b>  | 12       |
| 08KhMFChA           | gost | <b>A570</b>           | aisi-sae |
| 08KhMFChYuA         | gost | <b>A570(50)</b>       | aisi-sae |
| 08YuA               | gost | <b>A570Gr.50</b>      | aisi-sae |
| 08кп                | gost | <b>A572</b>           | aisi-sae |
| 08ХМФЧ              | gost | <b>A572(50)</b>       | aisi-sae |
| 08ХМЧ               | gost | <b>A572Gr.50</b>      | aisi-sae |
| 30HG1               | gost | <b>Gr.50</b>          | aisi-sae |
| 30ХГ1               | gost | <b>K02305</b>         | aisi-sae |
| 5KHGM               | gost | <b>K02507</b>         | aisi-sae |
| 5KHNV5              | gost | <b>A 570 Grade 50</b> | astm     |
| 5МФПЛ               | gost | <b>A 622</b>          | astm     |
| CHS5                | gost | <b>A570</b>           | astm     |
| CHS5SH              | gost |                       |          |
| L5                  | gost | <b>United Kingdom</b> | 7        |
| LR5                 | gost | <b>1449 1 HR</b>      | bs       |
| PA-ZhD5             | gost | <b>43/35HS</b>        | bs       |
| PA-ZhGrD5           | gost | <b>4360-50B</b>       | bs       |
| PZhR5               | gost | <b>50B</b>            | bs       |
| PZhV5               | gost | <b>BS 1449 1 HR</b>   | bs       |
| S285                | gost | <b>E295</b>           | bs       |
| St5Gps              | gost | <b>Fe490-2FN</b>      | bs       |
| St5ps               | gost |                       |          |
| St5sp               | gost | <b>France</b>         | 6        |
| Sv-08               | gost | <b>3C</b>             | afnor    |
| Sv-08A              | gost | <b>A50</b>            | afnor    |
| Sv-08AA             | gost | <b>A50-2</b>          | afnor    |
| Sv-08GA             | gost | <b>A60-2</b>          | afnor    |
| Sv-08GS             | gost | <b>E295</b>           | afnor    |
| Sv-08GSMТ           | gost | <b>A 50-2</b>         | afnor    |
| Sv-08KhGSMA         | gost |                       |          |
| Sv-08KhGSMFA        | gost | <b>Spain</b>          | 4        |
| Sv-08KhM            | gost | <b>A490</b>           | une      |
| Sv-08KhMFА          | gost | <b>A490-2</b>         | une      |
| Sv-08KhMNFBA        | gost | <b>E295</b>           | une      |
| Sv-08KhNM           | gost | <b>Fe490-2FN</b>      | une      |
| Sv-08MKh            | gost |                       |          |
| VSt5sp              | gost | <b>Sweden</b>         | 4        |
| ЖГр0.25Д5           | gost | <b>1550</b>           | ss       |
| ЖГр1.5Д10           | gost | <b>1550-00</b>        | ss       |
| ЖГр1.5Д5            | gost | <b>1550-01</b>        | ss       |
|                     |      | <b>2172</b>           | ss       |

|                                            |        |                                         |       |
|--------------------------------------------|--------|-----------------------------------------|-------|
| <b>Bulgaria</b>                            | 4      | <b>Czechia</b>                          | 2     |
| ASt5                                       | bds    | 10 500 HŽ                               | csn   |
| E295                                       | bds    | 11500                                   | csn   |
| WSt5ps                                     | bds    |                                         |       |
| WSt5sp                                     | bds    | <b>Poland</b>                           | 2     |
| <b>Europe</b>                              | 3      | MSt5                                    | pn    |
| E295 <span>This grade's own name</span>    | din-en | St5                                     | pn    |
| Fe490-2                                    | din-en | <b>Austria</b>                          | 2     |
| St 50-2 <span>This grade's own name</span> | din-en | St490                                   | onorm |
| <b>International</b>                       | 3      | St50F                                   | onorm |
| E355-C                                     | iso    | <b>Belgium</b>                          | 2     |
| Fe490                                      | iso    | A490-1.2                                | nbn   |
| Fe510-C                                    | iso    | FE490-2FN                               | nbn   |
| <b>Japan</b>                               | 3      | <b>South Korea</b>                      | 2     |
| SS 50                                      | jis    | SPHE <span>This grade's own name</span> | ks    |
| SS490                                      | jis    | SS490                                   | ks    |
| SS500                                      | jis    | <b>Slovakia</b>                         | 1     |
| <b>China</b>                               | 3      | 11 500                                  | stn   |
| Q275                                       | gb     | <b>Serbia</b>                           | 1     |
| Q275Z                                      | gb     | Č.0545                                  | srps  |
| Q345C                                      | gb     | <b>Romania</b>                          | 1     |
| <b>Italy</b>                               | 3      | OL50.1                                  | stas  |
| E295                                       | uni    | <b>Finland</b>                          | 1     |
| Fe480                                      | uni    | Fe50                                    | sfs   |
| Fe490                                      | uni    | <b>Switzerland</b>                      | 1     |
| <b>Hungary</b>                             | 3      | St50-2                                  | snv   |
| A 50                                       | msz    |                                         |       |
| E295                                       | msz    |                                         |       |
| Fe490-2                                    | msz    |                                         |       |

**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.

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#### ISSUED

Aug 20, 2026