

MATERIAL NUMBER 1.4000 · CLASS 1.4

# Type403

## Material no. 1.4000

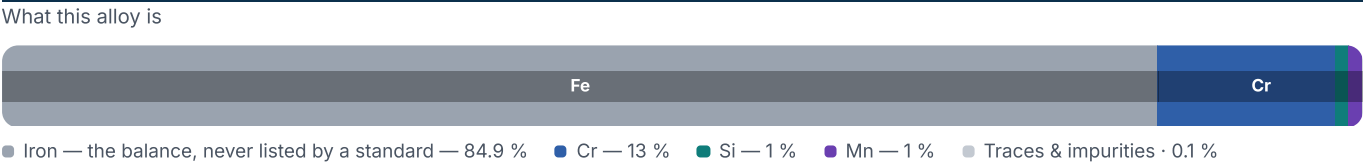
also listed as X6Cr13

Chemical composition, mechanical and physical property values, and 54 standard designations from 15 regions.

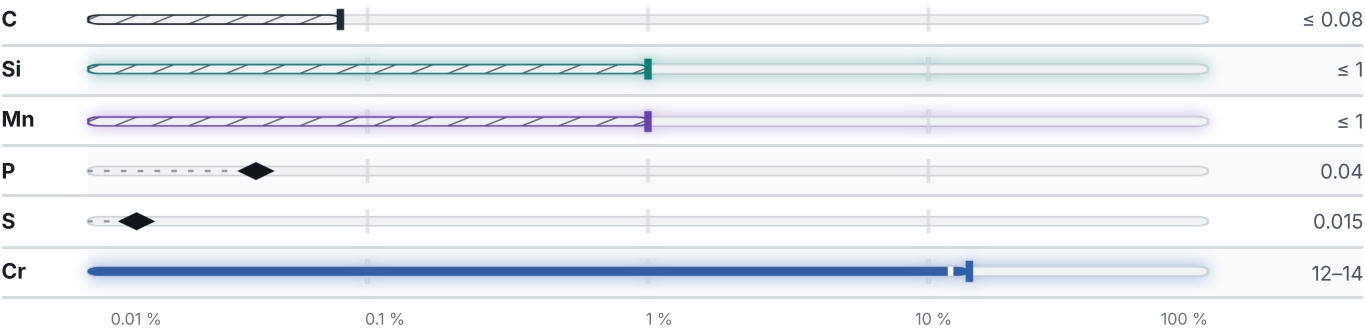
|                             |                                               |                                     |
|-----------------------------|-----------------------------------------------|-------------------------------------|
| DENSITY<br><b>7.7</b> g/cm³ | OTHER DESIGNATIONS<br><b>54</b> in 15 regions | PROPERTY VALUES<br><b>9</b> on file |
|-----------------------------|-----------------------------------------------|-------------------------------------|

### Chemical composition

Mass fraction in %



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, Mo.

## Mechanical properties

42 values across 8 conditions

| CONDITION · DIMENSION                                       | RM<br>N/mm <sup>2</sup> | A5<br>% | HB      |
|-------------------------------------------------------------|-------------------------|---------|---------|
| Pipe cooling strain, GOST 9941-81                           | 372                     | 22      | –       |
| Pipe hot strain, GOST 9940-81                               | 372                     | 22      | –       |
| 08KH13 ( 08X13 ) (quenching, tempering) , GOST 25054-81     | –                       | –       | 187–229 |
| 08KH13 ( 08X13 ) (annealing) , Bar GOST 5949-75             | –                       | –       | 116–179 |
| 08KH13 ( 08X13 ) (normalize, tempering) , Bar GOST 18968-73 | –                       | –       | 187–217 |

| CONDITION · DIMENSION  | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A<br>% | Z<br>% | AK<br>J/cm <sup>2</sup> | HB  | HRB | HV  |
|------------------------|-------------------------|-------------------------|--------|--------|-------------------------|-----|-----|-----|
| Plate/Sheet Hot-rolled | 440                     | 205                     | 20     | –      | –                       | –   | –   | –   |
| Bars/Rods              | 590                     | 390                     | 25     | 55     | 147                     | –   | –   | –   |
| Hot-rolled             | –                       | –                       | –      | –      | –                       | 201 | 93  | 210 |

| CONDITION · DIMENSION     | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A5<br>% |
|---------------------------|-------------------------|-------------------------|---------|
| Sheet trick, GOST 7350-77 | 650                     | 250                     | 15      |
| Sheet thin, GOST 5582-75  | 410                     | –                       | 21      |

| SOFT ANNEALED | HB  |
|---------------|-----|
| Soft annealed | 200 |

| 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> |
|-----------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Bar, GOST 5949-75     | 590                     | 410                     | 20      | 60     | 980                      |

| 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> |
|-----------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Bar, GOST 18968-73    | 580                     | 410                     | 20      | 60     | 980                      |

| QUENCHING AND DRAWING | 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 600                | 539                     | 392                     | 14–17   | 35–50  | 490–830                  |

| CONDITION · DIMENSION     | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A5<br>% |
|---------------------------|-------------------------|-------------------------|---------|
| Sheet trick, GOST 7350-77 | 420                     | 295                     | 23      |

## Physical properties

3 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                    | 7.76                     | 217      | –                            | –                 | –              | 506            |
| 100                   | 7.74                     | 212      | 10.5                         | 28                | 462            | 584            |
| 200                   | 7.71                     | 206      | 11.1                         | 28                | –              | 679            |
| 300                   | –                        | 198      | 11.4                         | 28                | –              | 769            |
| 400                   | –                        | 189      | 11.8                         | 28                | –              | 854            |
| 500                   | –                        | 180      | 12.1                         | 27                | –              | 938            |
| 600                   | –                        | –        | 12.3                         | 26                | –              | 1021           |
| 700                   | –                        | –        | 12.5                         | 26                | –              | 1103           |
| 800                   | –                        | –        | 12.8                         | 25                | –              | –              |

| PROPERTY | VALUE | UNIT              |
|----------|-------|-------------------|
| Density  | 7.7   | g/cm <sup>3</sup> |

## Technological properties

| PROPERTY           | VALUE                | UNIT |
|--------------------|----------------------|------|
| Weldability        | limited weldability. |      |
| Temper brittleness | predisposed          |      |

## Designations across standards

54 designations · 5 documented as identical

| United States |                       | 17       | Russia / CIS |                       | 6      |
|---------------|-----------------------|----------|--------------|-----------------------|--------|
| S40300        | This grade's own name | uns      | 08Ch13       |                       | gost   |
| S41008        | This grade's own name | uns      | 08KH13       |                       | gost   |
| 403           | This grade's own name | aisi-sae | 08X13        |                       | gost   |
| 4105          |                       | aisi-sae | 08X13        |                       | gost   |
| 410S          | This grade's own name | aisi-sae | 0X13         |                       | gost   |
| 429           |                       | aisi-sae | ЭИ496        |                       | gost   |
| 51403         |                       | aisi-sae |              |                       |        |
| S40300        |                       | aisi-sae | Europe       |                       | 5      |
| S40500        |                       | aisi-sae | 1.4000       |                       | din-en |
| S41008        |                       | aisi-sae | Type403      |                       | din-en |
| Type403       |                       | aisi-sae | X6Cr13       | This grade's own name | din-en |
| A176          |                       | astm     | X7Cr13       |                       | din-en |
| A276          |                       | astm     | X7Cr14       |                       | din-en |
| A314          |                       | astm     |              |                       |        |
| A479          |                       | astm     |              |                       |        |
| A511          |                       | astm     |              |                       |        |
| A580          |                       | astm     |              |                       |        |

|           |       |                           |      |
|-----------|-------|---------------------------|------|
| France    | 5     | Italy                     | 2    |
| 410F90    | afnor | X6CM3                     | uni  |
| Z6C13     | afnor | X6Cr13                    | uni  |
| Z8C113FF  | afnor |                           |      |
| Z8C12     | afnor | Poland                    | 2    |
| Z8C13FF   | afnor | OH13                      | pn   |
|           |       | OH13                      | pn   |
| Japan     | 5     | United Kingdom            | 1    |
| SUS 403   | jis   | 403S17                    | bs   |
| SUS 403FB | jis   |                           |      |
| SUS410    | jis   | United States / Aerospace | 1    |
| SUS410S   | jis   | 5614                      | ams  |
| SUS429    | jis   |                           |      |
| Spain     | 3     | Sweden                    | 1    |
| F.3110    | une   | 2301                      | ss   |
| X6CM3     | une   |                           |      |
| X6Cr13    | une   | Czechia                   | 1    |
|           |       | 17020                     | csn  |
| China     | 3     | Slovakia                  | 1    |
| 0Cr13     | gb    | 17 020                    | stn  |
| 1Cr12     | gb    |                           |      |
| 0Cr13     | gb    | Serbia                    | 1    |
|           |       | Č.4170                    | srps |

**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 Type403

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

[Start an enquiry](#)

|                        |                   |              |              |
|------------------------|-------------------|--------------|--------------|
| DATASHEET ONLINE       | GRADE SEARCH      | MATERIAL NO. | ISSUED       |
| View the material page | Search all grades | 1.4000       | Aug 20, 2026 |