

MATERIAL NUMBER 1.4016 · CLASS 1.4

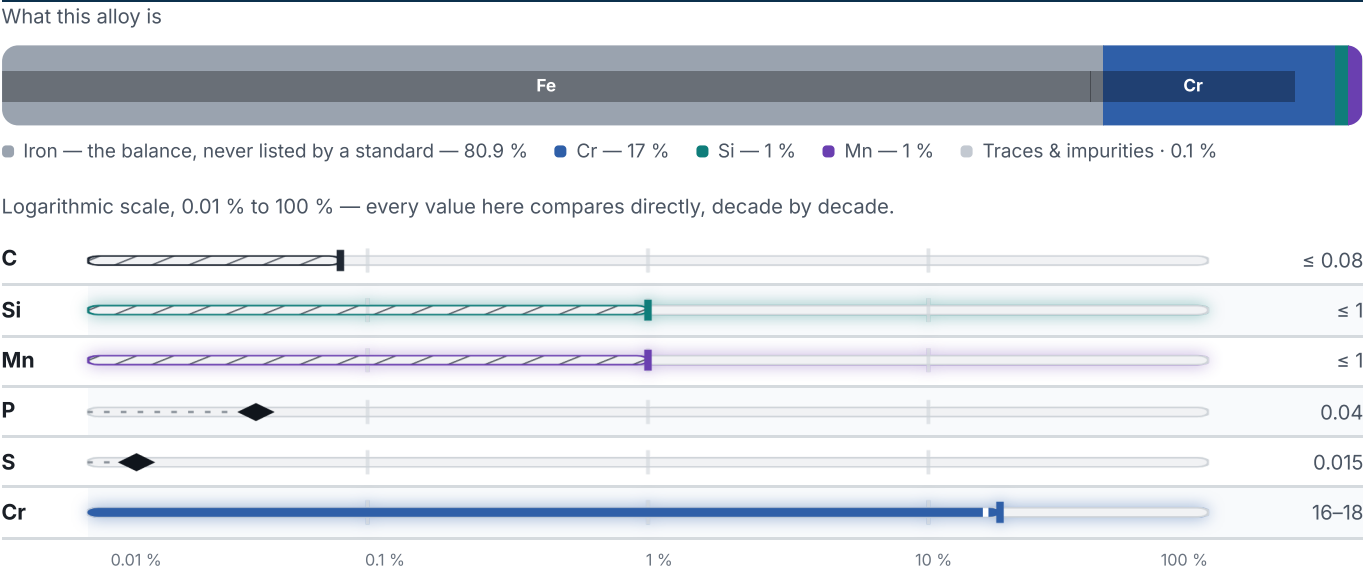
# 1.4016

Chemical composition, mechanical and physical property values, and 68 standard designations from 17 regions.

|                             |                                               |                                     |
|-----------------------------|-----------------------------------------------|-------------------------------------|
| DENSITY<br><b>7.7</b> g/cm³ | OTHER DESIGNATIONS<br><b>68</b> in 17 regions | PROPERTY VALUES<br><b>9</b> on file |
|-----------------------------|-----------------------------------------------|-------------------------------------|

Chemical composition

Mass fraction in %



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

25 values across 7 conditions

| CONDITION · DIMENSION  | RM<br>N/mm² | RE<br>N/mm² | A<br>% | Z<br>% | HB | HRB | HV |
|------------------------|-------------|-------------|--------|--------|----|-----|----|
| Plate/Sheet Hot-rolled | 420         | 205         | 22     | –      | –  | –   | –  |
| Bars/Rods              | 450         | 205         | 22     | 50     | –  | –   | –  |

| CONDITION · DIMENSION                              | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A<br>%                  | Z<br>%                  | HB      | HRB    | HV      |
|----------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---------|--------|---------|
| Hot-rolled                                         | —                       | —                       | —                       | —                       | 183     | 88     | 200     |
| CONDITION · DIMENSION                              |                         | RM<br>N/mm <sup>2</sup> | A5<br>%                 |                         | HB      |        |         |
| Pipe cooling strain, GOST 9941-81                  |                         | 441                     | 17                      |                         | —       |        |         |
| Pipe hot strain, GOST 9940-81                      |                         | 441                     | 17                      |                         | —       |        |         |
| 12KH17 ( 12X17 ) (annealing) , Bar<br>GOST 5949-75 |                         | —                       | —                       |                         | 126–197 |        |         |
| COLD ROLLED                                        |                         |                         |                         |                         |         |        | HV      |
| Cold rolled                                        |                         |                         |                         |                         |         |        | 200–300 |
| 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>% |         |
| Bar, GOST 5949-75                                  |                         | 390                     | 245                     |                         | 20      | 50     |         |
| CONDITION · DIMENSION                              |                         |                         |                         | RM<br>N/mm <sup>2</sup> | A5<br>% |        |         |
| Sheet trick, GOST 7350-77                          |                         |                         |                         | 440                     | 18      |        |         |
| CONDITION · DIMENSION                              |                         |                         |                         | RM<br>N/mm <sup>2</sup> | A5<br>% |        |         |
| Sheet thin, GOST 5582-75                           |                         |                         |                         | 490                     | 20      |        |         |

## 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                    | 7.72                     | 232      | –                             | –                 | –              | 560            |
| 100                   | –                        | 227      | 10.4                          | 24                | 462            | 610            |
| 200                   | –                        | 219      | 10.5                          | 24                | –              | 680            |
| 300                   | –                        | 211      | 10.8                          | 25                | –              | 770            |
| 400                   | –                        | 201      | 11.2                          | 26                | –              | 850            |
| 500                   | –                        | 192      | 11.4                          | 26                | –              | 950            |
| 600                   | –                        | 182      | 11.6                          | –                 | –              | 1030           |
| 700                   | –                        | 165      | 11.9                          | –                 | –              | 1110           |
| 800                   | –                        | 148      | 12.1                          | –                 | –              | 1150           |

| CONDITION · DIMENSION | RHO<br>g/cm³ | 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 |
|-----------------------|--------------|----------|------------------------------|-------------------|----------------|----------------|
| 900                   | —            | —        | —                            | —                 | —              | 1160           |

| PROPERTY | VALUE | UNIT  |
|----------|-------|-------|
| Density  | 7.7   | g/cm³ |

Technological properties

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

Heat treatment

2 regimes

| STEP                                  | TEMPERATURE            | MEDIUM |
|---------------------------------------|------------------------|--------|
| Annealing                             | Temperature not stated | —      |
| source joins the operations with (or) |                        |        |
| Quenching                             | Temperature not stated | —      |
| Solution annealing                    | Temperature not stated | —      |

## Designations across standards

68 designations · 2 documented as identical

| United States         |  | 24       | Russia / CIS                     |                       | 6      |
|-----------------------|--|----------|----------------------------------|-----------------------|--------|
| S43000                |  | uns      | 12Ch17                           |                       | gost   |
| 430                   |  | aisi-sae | 12KH17                           |                       | gost   |
| 51430                 |  | aisi-sae | 12X17                            |                       | gost   |
| S43000                |  | aisi-sae | 12X17                            |                       | gost   |
| A1012                 |  | astm     | cr.12X17                         |                       | gost   |
| A182                  |  | astm     | X17                              |                       | gost   |
| A240                  |  | astm     |                                  |                       |        |
| A268                  |  | astm     | <b>France</b>                    |                       | 4      |
| A276                  |  | astm     | 430F00                           |                       | afnor  |
| A314                  |  | astm     | Z10CF17                          |                       | afnor  |
| A473                  |  | astm     | Z6Cr17                           |                       | afnor  |
| A479                  |  | astm     | Z8C17                            |                       | afnor  |
| A484                  |  | astm     |                                  |                       |        |
| A493                  |  | astm     | <b>Spain</b>                     |                       | 4      |
| A511                  |  | astm     | F.310.D                          |                       | une    |
| A554                  |  | astm     | F.3113                           |                       | une    |
| A580                  |  | astm     | F.3113-X8Cr17                    |                       | une    |
| A815                  |  | astm     | X6Cr17                           |                       | une    |
| F2215                 |  | astm     |                                  |                       |        |
| F2281                 |  | astm     | <b>China</b>                     |                       | 3      |
| F593                  |  | astm     | 1Cr15                            |                       | gb     |
| F594                  |  | astm     | 1Cr17                            |                       | gb     |
| F738                  |  | astm     | ML1Cr17                          |                       | gb     |
| F836                  |  | astm     |                                  |                       |        |
|                       |  |          | <b>Europe</b>                    |                       | 2      |
| <b>United Kingdom</b> |  | 6        | 1.4016                           |                       | din-en |
| 17Cr                  |  | bs       | X6Cr17                           | This grade's own name | din-en |
| 430S1                 |  | bs       |                                  |                       |        |
| 430S15                |  | bs       | <b>United States / Aerospace</b> |                       | 2      |
| 430S17                |  | bs       | 5503                             |                       | ams    |
| 430S18                |  | bs       | 5627                             |                       | ams    |
| EN 60                 |  | bs       |                                  |                       |        |
|                       |  |          | <b>Italy</b>                     |                       | 2      |
| <b>Japan</b>          |  | 6        | X6Cr17                           |                       | uni    |
| SUS 430               |  | jis      | X8Cr17                           |                       | uni    |
| SUS 430TKA            |  | jis      |                                  |                       |        |
| SUS 430TKC            |  | jis      | <b>Sweden</b>                    |                       | 2      |
| SUS 430TP             |  | jis      | 2320                             |                       | ss     |
| SUS430TB              |  | jis      | SIS 2320                         | This grade's own name | ss     |
| SUS430TK              |  | jis      |                                  |                       |        |
|                       |  |          | <b>Czechia</b>                   |                       | 2      |
|                       |  |          | 17040                            |                       | csn    |
|                       |  |          | 17041                            |                       | csn    |
|                       |  |          | <b>Slovakia</b>                  |                       | 1      |
|                       |  |          | 17 040                           |                       | stn    |

|               |      |                          |     |
|---------------|------|--------------------------|-----|
| <b>Brazil</b> | 1    | <b>former Yugoslavia</b> | 1   |
| 430           | abnt | Č.4174                   | jus |
| <b>Serbia</b> | 1    | <b>Poland</b>            | 1   |
| Č.4174        | srps | H17                      | pn  |

**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 1.4016**  
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**MATERIAL NO.**  
1.4016

**ISSUED**  
Sep 8, 2026