

MATERIAL NUMBER 1.4401 · CLASS 1.4

# 0Cr17Ni11Mo2

## Material no. 1.4401

also listed as X 5 CrNiMo 18 10

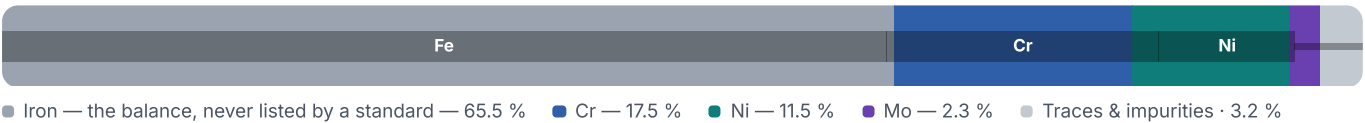
Chemical composition, mechanical and physical property values, and 134 standard designations from 19 regions.

|                    |                                         |                               |
|--------------------|-----------------------------------------|-------------------------------|
| DENSITY<br>8 g/cm³ | OTHER DESIGNATIONS<br>134 in 19 regions | PROPERTY VALUES<br>11 on file |
|--------------------|-----------------------------------------|-------------------------------|

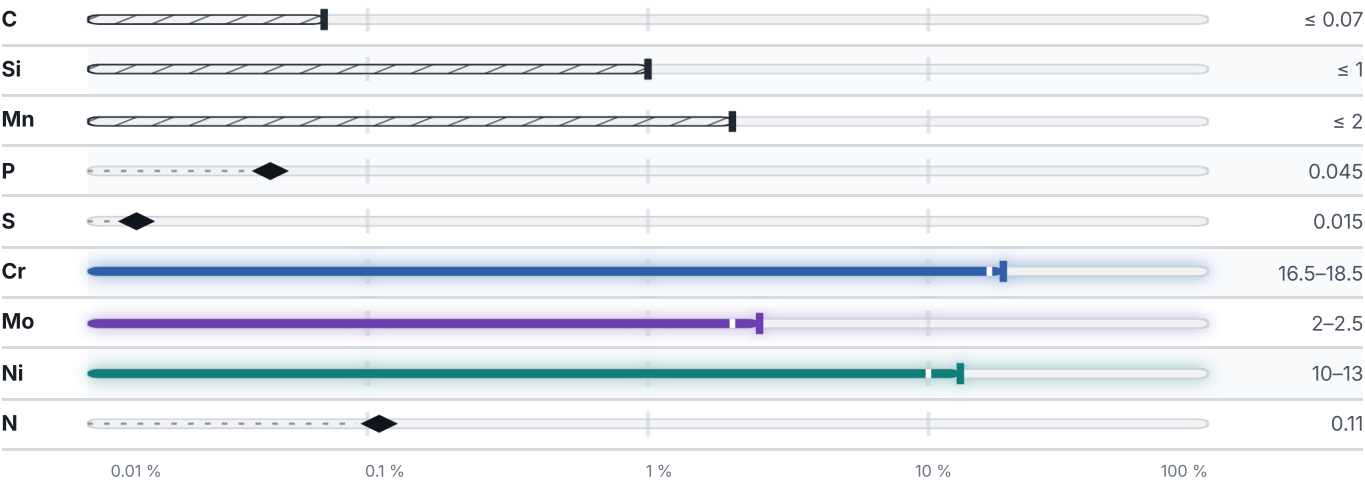
Chemical composition

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

This grade's composition falls outside the published model's validated range (a low-alloy composition window), so no transformation temperature is predicted here.

## Mechanical properties

13 values across 4 conditions

| 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> |
|-----------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Pipe                  | 540                     | 220                     | 40      | 55     | 1500                     |
| Pipe                  | 540                     | 220                     | 35      | 50     | 1400                     |
| COLD ROLLED           |                         |                         |         |        | HV                       |
| Cold rolled           |                         |                         |         |        | 220–400                  |
| QUENCHED AND TEMPERED |                         |                         |         |        | HB                       |
| Quenched and tempered |                         |                         |         |        | 215                      |
| SOLUTION ANNEALED     |                         |                         |         |        | HB                       |
| Solution annealed     |                         |                         |         |        | 200                      |

## Physical properties

2 values

| CONDITION · DIMENSION | RHO<br>g/cm <sup>3</sup> | E<br>GPa | ALPHA<br>10 <sup>-6</sup> /K |
|-----------------------|--------------------------|----------|------------------------------|
| 20                    | 7.9                      | 214      | –                            |
| 100                   | –                        | –        | 17.1                         |
| 200                   | –                        | –        | 17.6                         |
| 300                   | –                        | –        | 18.1                         |
| 400                   | –                        | 184      | 18.4                         |
| 500                   | –                        | 175      | 19                           |
| 600                   | –                        | –        | 19.3                         |
| 700                   | –                        | –        | 19.6                         |
| 800                   | –                        | –        | 19.8                         |
| PROPERTY              | VALUE                    |          | UNIT                         |
| Density               | 8                        |          | g/cm <sup>3</sup>            |

## Technological properties

| PROPERTY    | VALUE                | UNIT |
|-------------|----------------------|------|
| Weldability | without limitations. |      |

## Designations across standards

134 designations · 5 documented as identical

| United States                             | 67       | A826                  | astm |
|-------------------------------------------|----------|-----------------------|------|
| S31600                                    | uns      | A831                  | astm |
| S31603                                    | uns      | A943                  | astm |
| S31609 <span>This grade's own name</span> | uns      | A965                  | astm |
| 30316                                     | aisi-sae | A988                  | astm |
| 316                                       | aisi-sae | F 138                 | astm |
| 316H <span>This grade's own name</span>   | aisi-sae | F1667                 | astm |
| 316L                                      | aisi-sae | F2215                 | astm |
| S31600                                    | aisi-sae | F2281                 | astm |
| S31609                                    | aisi-sae | F3184                 | astm |
| A 182 Grade F316                          | astm     | F593                  | astm |
| A 312 Grade TP316                         | astm     | F594                  | astm |
| A 403 Grade WP316                         | astm     | F738                  | astm |
| A1012                                     | astm     | F836                  | astm |
| A1022                                     | astm     | F837                  | astm |
| A1049                                     | astm     | F879                  | astm |
| A167                                      | astm     | F899                  | astm |
| A182                                      | astm     | F957                  | astm |
| A193                                      | astm     | TP316                 | astm |
| A194                                      | astm     | TP316L                | astm |
| A213                                      | astm     |                       |      |
| A240                                      | astm     | <b>Japan</b>          | 13   |
| A249                                      | astm     | SUS 316A              | jis  |
| A264                                      | astm     | SUS 316FB             | jis  |
| A269                                      | astm     | SUS 316HFB            | jis  |
| A270                                      | astm     | SUS 316HTB            | jis  |
| A271                                      | astm     | SUS 316HTP            | jis  |
| A276                                      | astm     | SUS 316TB             | jis  |
| A312                                      | astm     | SUS 316TBS            | jis  |
| A313                                      | astm     | SUS 316TKA            | jis  |
| A314                                      | astm     | SUS 316TKC            | jis  |
| A320                                      | astm     | SUS 316TP             | jis  |
| A336                                      | astm     | SUS F 316             | jis  |
| A358                                      | astm     | SUS Y 316             | jis  |
| A368                                      | astm     | SUS316                | jis  |
| A376                                      | astm     |                       |      |
| A403                                      | astm     | <b>United Kingdom</b> | 11   |
| A409                                      | astm     | 316 S 17              | bs   |
| A430                                      | astm     | 316 S 19              | bs   |
| A479                                      | astm     | 316 S 33              | bs   |
| A484                                      | astm     | 316 S 40              | bs   |
| A580                                      | astm     | 316 S 41              | bs   |
| A632                                      | astm     | 316S16                | bs   |
| A666                                      | astm     | 316S31                | bs   |
| A688                                      | astm     | 58J                   | bs   |
| A793                                      | astm     | 845                   | bs   |
| A813                                      | astm     | EN58J                 | bs   |
| A814                                      | astm     | S31 EN 58J            | bs   |

| United States / Aerospace |                       | 9 | Europe                         |                       | 3      |
|---------------------------|-----------------------|---|--------------------------------|-----------------------|--------|
| 5507                      | ams                   |   | 1.4401                         |                       | din-en |
| 5524                      | ams                   |   | X 5 CrNiMo 18 10               | This grade's own name | din-en |
| 5573                      | ams                   |   | X5CrNiMo17-12-2                | This grade's own name | din-en |
| 5584                      | ams                   |   |                                |                       |        |
| 5648                      | ams                   |   | <b>China</b>                   |                       | 2      |
| 5649                      | ams                   |   | 0Cr17Ni11Mo2                   |                       | gb     |
| 5653                      | ams                   |   | 0Cr17Ni12Mo2                   |                       | gb     |
| 5690                      | ams                   |   |                                |                       |        |
| 5691                      | ams                   |   | <b>Poland</b>                  |                       | 2      |
|                           |                       |   | 00H17N14M2                     |                       | pn     |
|                           |                       |   | 0H17N12M2T                     |                       | pn     |
| <b>France</b>             |                       | 7 |                                |                       |        |
| Z2CND17-12                | afnor                 |   | <b>Italy</b>                   |                       | 1      |
| Z3CND17-11-02             | afnor                 |   |                                |                       |        |
| Z6CND17-11-02             | afnor                 |   | X5CrNiMo17-12                  |                       | uni    |
| Z6CND17.11                | afnor                 |   |                                |                       |        |
| Z6CND17.12                | afnor                 |   | <b>Sweden</b>                  |                       | 1      |
| Z7CND17-11-02             | afnor                 |   | 2347                           |                       | ss     |
| Z7CND17-12-02             | afnor                 |   |                                |                       |        |
| <b>Russia / CIS</b>       |                       | 6 | <b>Czechia</b>                 |                       | 1      |
| 03Ch17N13M2               | gost                  |   | 17346                          |                       | csn    |
| 03X17H13M2                | gost                  |   | <b>Slovakia</b>                |                       | 1      |
| 03X17H14M2                | gost                  |   | 17 346                         |                       | stn    |
| 08Ch16N11M3               | gost                  |   | <b>Brazil</b>                  |                       | 1      |
| 08KH16N11M3               | gost                  |   | 316                            |                       | abnt   |
| 08X16H11M3                | gost                  |   |                                |                       |        |
| <b>Spain</b>              |                       | 5 | <b>Serbia</b>                  |                       | 1      |
| 03                        | une                   |   | Č.4573                         |                       | srps   |
| F.310.A                   | une                   |   | <b>former Yugoslavia</b>       |                       | 1      |
| F.3534                    | This grade's own name |   | Č.4573                         |                       | jus    |
| F.3543                    | une                   |   |                                |                       |        |
| F.3543-X5CrNiMo17-12      | une                   |   | <b>Australia / New Zealand</b> |                       | 1      |
|                           |                       |   | 316                            |                       | as-nzs |
|                           |                       |   | <b>Austria</b>                 |                       | 1      |
|                           |                       |   | X5CrNiMo17-12-2KW              |                       | onorm  |

**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 0Cr17Ni11Mo2

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ISSUED

Aug 20, 2026