

MATERIAL NUMBER 1.4310 · CLASS 1.4

# 301 S 22

Material no. 1.4310

also listed as X 12 CrNi 17 7

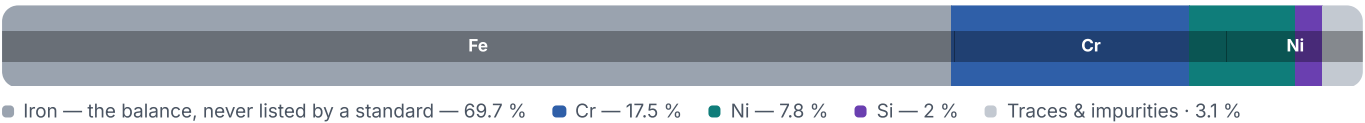
Chemical composition, mechanical and physical property values, and 97 standard designations from 17 regions.

|                                       |                                               |                                      |
|---------------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>8</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>97</b> in 17 regions | PROPERTY VALUES<br><b>10</b> on file |
|---------------------------------------|-----------------------------------------------|--------------------------------------|

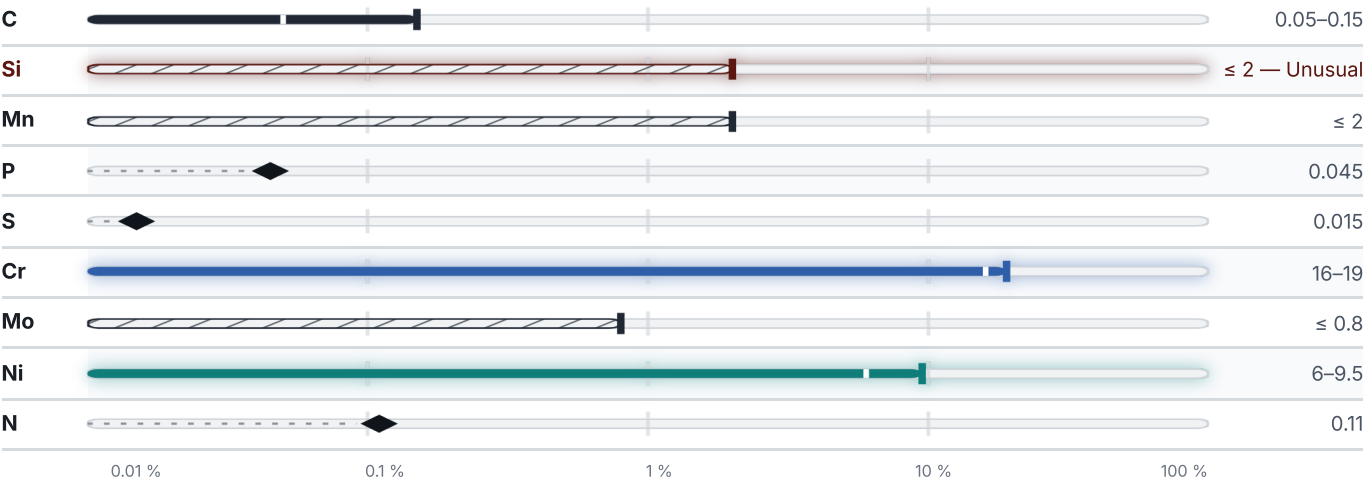
## Chemical composition

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

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

23 values across 5 conditions

| CONDITION · DIMENSION                           | RM<br>N/mm² | RE<br>N/mm² | A5<br>% | Z<br>% | KCU<br>kJ/m² | HB      |
|-------------------------------------------------|-------------|-------------|---------|--------|--------------|---------|
| Bar, GOST 5949-75                               | 1080        | 880         | 12      | 50     | 690          | –       |
| Forging, GOST 25054-81                          | 1176        | 980         | 12–13   | 50     | 690          | –       |
| 07KH16N6 ( 07X16H6 ) , Forging<br>GOST 25054-81 | –           | –           | –       | –      | –            | 341–415 |

| CONDITION · DIMENSION  | RM<br>N/mm² | RE<br>N/mm² | A<br>% | HB  | HRB | HV  |
|------------------------|-------------|-------------|--------|-----|-----|-----|
| Plate/Sheet Hot-rolled | 520         | 205         | 40     | –   | –   | –   |
| Hot-rolled             | –           | –           | –      | 207 | 95  | 218 |

| SOFT ANNEALED |  |  |  |  |  | HB  |
|---------------|--|--|--|--|--|-----|
| Soft annealed |  |  |  |  |  | 230 |

| CONDITION · DIMENSION     | RM<br>N/mm² | RE<br>N/mm² | A5<br>% |
|---------------------------|-------------|-------------|---------|
| Sheet trick, GOST 7350-77 | 1180        | 390         | 15      |

| CONDITION · DIMENSION    | RM<br>N/mm² | A5<br>% |
|--------------------------|-------------|---------|
| Sheet thin, GOST 5582-75 | 1180        | 20      |

Physical properties

1 values

| PROPERTY | VALUE | UNIT  |
|----------|-------|-------|
| Density  | 8     | g/cm³ |

## Designations across standards

97 designations · 7 documented as identical

| United States | 31       | United States / Aerospace | 22    |
|---------------|----------|---------------------------|-------|
| S30100        | uns      | 5358                      | ams   |
| S30200        | uns      | 5500                      | ams   |
| S45500        | uns      | 5515                      | ams   |
| 301           | aisi-sae | 5516                      | ams   |
| 302           | aisi-sae | 5517                      | ams   |
| 30301         | aisi-sae | 5518                      | ams   |
| 30302         | aisi-sae | 5519                      | ams   |
| J 230 (1994)  | aisi-sae | 5600                      | ams   |
| J230          | aisi-sae | 5617                      | ams   |
| S30100        | aisi-sae | 5636                      | ams   |
| S30200        | aisi-sae | 5637                      | ams   |
| A240          | astm     | 5688                      | ams   |
| A264          | astm     | 5693                      | ams   |
| A276          | astm     | 5866                      | ams   |
| A313          | astm     | 5901                      | ams   |
| A314          | astm     | 5902                      | ams   |
| A368          | astm     | 5903                      | ams   |
| A473          | astm     | 5904                      | ams   |
| A478          | astm     | 5905                      | ams   |
| A479          | astm     | 5906                      | ams   |
| A480          | astm     | 6693                      | ams   |
| A492          | astm     | 7241                      | ams   |
| A493          | astm     |                           |       |
| A511          | astm     | <b>Russia / CIS</b>       | 9     |
| A554          | astm     | 07KH16N6                  | gost  |
| A580          | astm     | 07X16H6                   | gost  |
| A666          | astm     | 07X16H6                   | gost  |
| F1669         | astm     | 12Ch18N9                  | gost  |
| F2215         | astm     | 12Kh18N9                  | gost  |
| F599          | astm     | ст.07X16H6                | gost  |
| F899          | astm     | X16H6                     | gost  |
|               |          | X17H8                     | gost  |
|               |          | ЭП288                     | gost  |
|               |          | <b>United Kingdom</b>     | 5     |
|               |          | 301 S 22                  | bs    |
|               |          | 301S21                    | bs    |
|               |          | 302S25                    | bs    |
|               |          | 302S26                    | bs    |
|               |          | CrNi17/7                  | bs    |
|               |          | <b>France</b>             | 5     |
|               |          | Z11CN17-08                | afnor |
|               |          | Z11CN18-08                | afnor |
|               |          | Z12CN17.07                | afnor |
|               |          | Z12CN18-09                | afnor |
|               |          | Z12CN18.08                | afnor |

|                                                   |        |                      |      |
|---------------------------------------------------|--------|----------------------|------|
| <b>Japan</b>                                      | 5      | <b>Czechia</b>       | 2    |
| SUS 301                                           | jis    | 17241                | csn  |
| SUS 301-CSP                                       | jis    | 17242                | csn  |
| SUS 302                                           | jis    |                      |      |
| SUS 302FB                                         | jis    | <b>Brazil</b>        | 2    |
| SUS301J1                                          | jis    | 301                  | abnt |
|                                                   |        | 302                  | abnt |
| <b>Europe</b>                                     | 3      |                      |      |
| 1.4310                                            | din-en | <b>International</b> | 1    |
| X 12 CrNi 17 7 <span>This grade's own name</span> | din-en | X9CrNi18-8           | iso  |
| X10CrNi18-8 <span>This grade's own name</span>    | din-en |                      |      |
| <b>Spain</b>                                      | 3      | <b>Sweden</b>        | 1    |
| F-3507                                            | une    | 2331                 | ss   |
| F.3517                                            | une    |                      |      |
| X10CrNi18-9                                       | une    | <b>Slovakia</b>      | 1    |
|                                                   |        | 17 241               | stn  |
| <b>China</b>                                      | 3      | <b>Poland</b>        | 1    |
| 1Cr17Ni7                                          | gb     | 1H18N9               | pn   |
| 1Cr18Ni9                                          | gb     |                      |      |
| Cr17Ni7                                           | gb     | <b>Serbia</b>        | 1    |
|                                                   |        | Č.4571               | srps |
| <b>Italy</b>                                      | 2      |                      |      |
| X10CrNi18-8                                       | uni    |                      |      |
| X12CrNi17-07                                      | uni    |                      |      |

**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 301 S 22

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

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#### MATERIAL NO.

1.4310

#### ISSUED

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