

MATERIAL NUMBER 1.7362 · CLASS 1.7

# 501

## Material no. 1.7362

also listed as 12 CrMo 19 5

Chemical composition, mechanical and physical property values, and 48 standard designations from 12 regions.

|                                          |                                               |                                      |
|------------------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>48</b> in 12 regions | PROPERTY VALUES<br><b>18</b> on file |
|------------------------------------------|-----------------------------------------------|--------------------------------------|

### Chemical composition

Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 92.7 % ● Cr — 5 % ● Mo — 0.6 % ● Si — 0.5 % ● Traces & impurities · 1.2 %

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

20 values across 4 conditions

| CONDITION · DIMENSION                                    | REH<br>N/mm² |             | RM<br>N/mm² |        |              |     |
|----------------------------------------------------------|--------------|-------------|-------------|--------|--------------|-----|
| ≤ 60                                                     | 320          |             | 510–690     |        |              |     |
| 60 – 150                                                 | –            |             | 480–660     |        |              |     |
| 60 – 250                                                 | 300          |             | –           |        |              |     |
| 150 – 250                                                | –            |             | 450–630     |        |              |     |
| CONDITION · DIMENSION                                    | RM<br>N/mm²  | RE<br>N/mm² | A5<br>%     | Z<br>% | KCU<br>kJ/m² | HB  |
| Pipe hot strain, GOST 550-75                             | 392          | 216         | 22          | 50     | 1180         | –   |
| 15Kh5M ( 15X5M ) (hot-rolled, annealing) , GOST 20072-74 | –            | –           | –           | –      | –            | 217 |
| 15Kh5M ( 15X5M ) , Pipe GOST 550-75                      | –            | –           | –           | –      | –            | 170 |
| ANNEALING 840 - 860°C,COOLING OVEN                       | RM<br>N/mm²  | RE<br>N/mm² | A5<br>%     | Z<br>% | KCU<br>kJ/m² |     |
| Ø 90                                                     | 390          | 215         | 22          | 50     | 1180         |     |
| CONDITION · DIMENSION                                    | RM<br>N/mm²  |             | RE<br>N/mm² |        | A5<br>%      |     |
| Sheet trick, GOST 7350-77                                | 470          |             | 235         |        | 18           |     |

Physical properties

8 values

| 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 |
|--------------------------|--------------|----------|-------------------------------|-------------------|----------------|----------------|
| 20                       | 7.75         | 211      | –                             | –                 | –              | 430            |
| 100                      | 7.73         | –        | 11.3                          | 37                | 483            | –              |
| 200                      | 7.7          | –        | 11.6                          | 36                | –              | –              |
| 300                      | 7.67         | –        | 11.9                          | 35                | –              | –              |
| 400                      | 7.64         | 178      | 12.2                          | 34                | –              | –              |
| 500                      | 7.61         | 145      | 12.3                          | 33                | –              | –              |
| 600                      | 7.58         | 102      | 12.5                          | –                 | –              | –              |
| PROPERTY                 | VALUE        |          | UNIT                          |                   |                |                |
| Density                  | 7.85         |          | g/cm³                         |                   |                |                |
| Transformation point Ac1 | 815          |          | °C                            |                   |                |                |

| PROPERTY                 | VALUE | UNIT |
|--------------------------|-------|------|
| Transformation point Ac3 | 848   | °C   |
| Transformation point Ar3 | 775   | °C   |
| Transformation point Ar1 | 718   | °C   |

Technological properties

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

Heat treatment

1 regimes

| STEP                                                             | TEMPERATURE  | MEDIUM |
|------------------------------------------------------------------|--------------|--------|
| multiple operations, source states neither order nor alternation |              |        |
| Quenching                                                        | 1150–1180 °C | Water  |
| Ageing                                                           | 485–570 °C   | Air    |

Designations across standards

48 designations · 11 documented as identical

|                 |                       |          |              |                       |        |
|-----------------|-----------------------|----------|--------------|-----------------------|--------|
| United States   |                       | 19       | Russia / CIS |                       | 8      |
| K41245          | This grade's own name | uns      | 15Ch5M       |                       | gost   |
| K41545          | This grade's own name | uns      | 15Kh5        |                       | gost   |
| K42544          | This grade's own name | uns      | 15KH5M       |                       | gost   |
| S50100          | This grade's own name | uns      | 15Kh5VF      |                       | gost   |
| S50200          | This grade's own name | uns      | 15X5M        |                       | gost   |
| 501             | This grade's own name | aisi-sae | X5           |                       | gost   |
| 502             | This grade's own name | aisi-sae | X5BΦ         |                       | gost   |
| K41545          |                       | aisi-sae | X5M          |                       | gost   |
| S50100          |                       | aisi-sae |              |                       |        |
| S50200          |                       | aisi-sae | Japan        |                       | 5      |
| T12005          |                       | aisi-sae | SFVAB5A      |                       | jis    |
| T51605          |                       | aisi-sae | STBA25       |                       | jis    |
| A 182 F 5       | This grade's own name | astm     | STC48        |                       | jis    |
| A 182 Grade F5  |                       | astm     | STFA25       |                       | jis    |
| A 234 Grade WP5 |                       | astm     | STPA25       |                       | jis    |
| A 335 Grade P5  |                       | astm     |              |                       |        |
| A199 grade T5   |                       | astm     | Europe       |                       | 4      |
| A200 grade T5   |                       | astm     | 1.7362       |                       | din-en |
| A213 grade T5   |                       | astm     | 12 CrMo 19 5 | This grade's own name | din-en |
|                 |                       |          | X11CrMo5     | This grade's own name | din-en |
|                 |                       |          | X12CrMo5     | This grade's own name | din-en |

|                |       |            |      |
|----------------|-------|------------|------|
| France         | 4     | China      | 1    |
| 710CD5-05      | afnor | 10MoCr50   | gb   |
| Z10CD5-05      | afnor |            |      |
| Z15CD5-05      | afnor | Czechia    | 1    |
| Z20CD5         | afnor | 17102      | csn  |
| Italy          | 2     | Poland     | 1    |
| A16CrMo25-5KG  | uni   | H5M        | pn   |
| A16CrMo25-5KW  | uni   |            |      |
| United Kingdom | 1     | Hungary    | 1    |
| 625            | bs    | 12CrMo20-5 | msz  |
|                |       | Romania    | 1    |
|                |       | 10MoCr50   | stas |

**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 501

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

[Start an enquiry](#)

|                                        |                                   |              |              |
|----------------------------------------|-----------------------------------|--------------|--------------|
| DATASHEET ONLINE                       | GRADE SEARCH                      | MATERIAL NO. | ISSUED       |
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