

MATERIAL NUMBER 1.7223 · CLASS 1.7

# 6135

## Material no. 1.7223

also listed as 41CrMo4

Chemical composition, mechanical and physical property values, and 30 standard designations from 13 regions.

## DENSITY

**7.72** g/cm<sup>3</sup>

## OTHER DESIGNATIONS

**30** in 13 regions

## PROPERTY VALUES

**15** on file

### Chemical composition

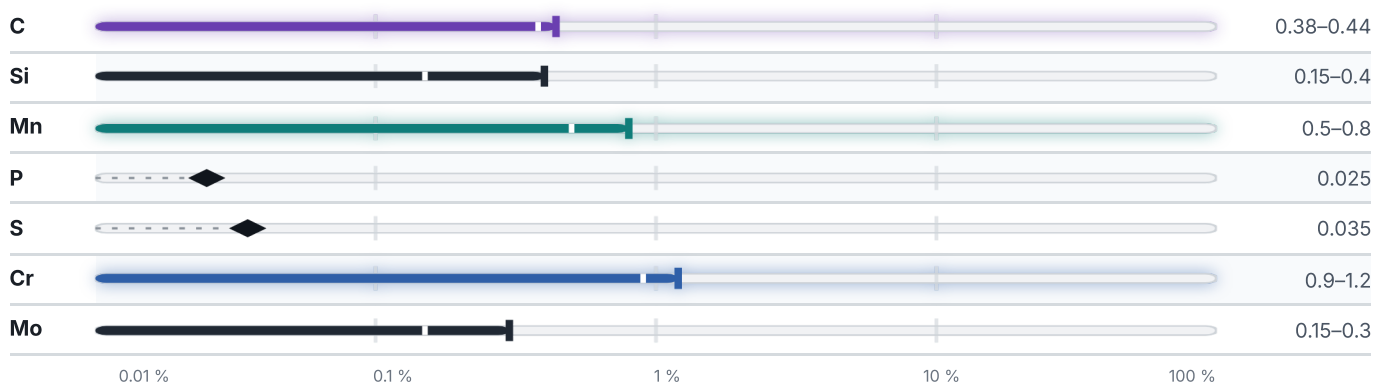
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 97.3 % ● Cr — 1.1 % ● Mn — 0.7 % ● C — 0.4 % ● Traces & impurities · 0.6 %

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.

Mechanical properties

16 values across 3 conditions

| 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> |
|----------------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| 100 - 300                  | 615                     | 395                     | 15      | 40     | 540                      |
| 300 - 500                  | 615                     | 395                     | 13      | 35     | 490                      |
| 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> |
| Ø 25                       | 880                     | 735                     | 10      | 50     | 880                      |
| CONDITION · DIMENSION      |                         |                         |         |        | HB                       |
| (annealing) , GOST 4543-71 |                         |                         |         |        | 241                      |

Physical properties

8 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) |
|--------------------------|--------------------------|----------|------------------------------|-------------------|----------------|
| 20                       | 7.81                     | 215      | –                            | 37                | –              |
| 100                      | –                        | 212      | 12.1                         | 37                | 466            |
| 200                      | –                        | 205      | 12.6                         | 37                | 508            |
| 300                      | –                        | 199      | 13                           | 36                | 529            |
| 400                      | –                        | 182      | 13.3                         | 33                | 563            |
| 500                      | –                        | 173      | 13.8                         | 31                | 592            |
| 600                      | –                        | 166      | 14.2                         | 31                | 621            |
| 700                      | –                        | 144      | 14.6                         | 30                | 634            |
| 800                      | –                        | 135      | 11.8                         | 28                | 664            |
| PROPERTY                 |                          |          | VALUE                        | UNIT              |                |
| Density                  |                          |          | 7.72                         | g/cm <sup>3</sup> |                |
| Transformation point Ac1 |                          |          | 760                          | °C                |                |
| Transformation point Ac3 |                          |          | 800                          | °C                |                |
| Transformation point Ar3 |                          |          | 725                          | °C                |                |
| Transformation point Ar1 |                          |          | 680                          | °C                |                |

Technological properties

| PROPERTY          | VALUE             | UNIT |
|-------------------|-------------------|------|
| Weldability       | hard weldability. |      |
| Flake sensitivity | predisposed       |      |

| PROPERTY           | VALUE       | UNIT |
|--------------------|-------------|------|
| Temper brittleness | predisposed |      |

Designations across standards

30 designations · 4 documented as identical

|                |                       |          |          |                       |        |
|----------------|-----------------------|----------|----------|-----------------------|--------|
| United States  |                       | 7        | Europe   |                       | 2      |
| G41420         | This grade's own name | uns      | 1.7223   |                       | din-en |
| K14047         | This grade's own name | uns      | 41CrMo4  | This grade's own name | din-en |
| 4140           |                       | aisi-sae | Czechia  |                       | 2      |
| 4140 4142      |                       | aisi-sae | 15142    |                       | csn    |
| 4142           | This grade's own name | aisi-sae | 15240    |                       | csn    |
| 6135           |                       | aisi-sae | France   |                       | 1      |
| G41400         |                       | aisi-sae | 42CD4TS  |                       | afnor  |
| United Kingdom |                       | 5        | Japan    |                       | 1      |
| 19A            |                       | bs       | SCM 440  |                       | jis    |
| 3111-5/1       |                       | bs       | China    |                       | 1      |
| 42CrMO4        |                       | bs       | 40CrMoA  |                       | gb     |
| 708M40         |                       | bs       | Italy    |                       | 1      |
| EN19A          |                       | bs       | 41CrMo4  |                       | uni    |
| Spain          |                       | 4        | Sweden   |                       | 1      |
| 40CrMo4        |                       | une      | 2244     |                       | ss     |
| 42CrMo4        |                       | une      | Bulgaria |                       | 1      |
| F.1252         |                       | une      | 40ChFA   |                       | bds    |
| F.8332         |                       | une      | Belgium  |                       | 1      |
| Russia / CIS   |                       | 3        | 41CrMo4  |                       | nbn    |
| 40ChFA         |                       | gost     |          |                       |        |
| 40KHFA         |                       | gost     |          |                       |        |
| 40XΦA          |                       | gost     |          |                       |        |

**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 6135

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 | 1.7223       | Aug 20, 2026 |