

MATERIAL NUMBER 1.2344 · CLASS 1.2

# Z40CDV5-1

Material no. 1.2344

also listed as X40CrMoV5-1

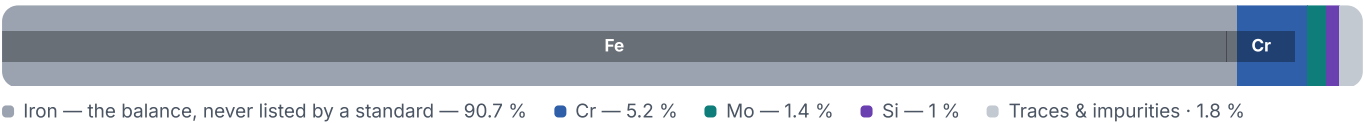
Chemical composition, mechanical and physical property values, and 49 standard designations from 20 regions.

|                              |                                               |                                      |
|------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.78</b> g/cm³ | OTHER DESIGNATIONS<br><b>49</b> in 20 regions | PROPERTY VALUES<br><b>13</b> on file |
|------------------------------|-----------------------------------------------|--------------------------------------|

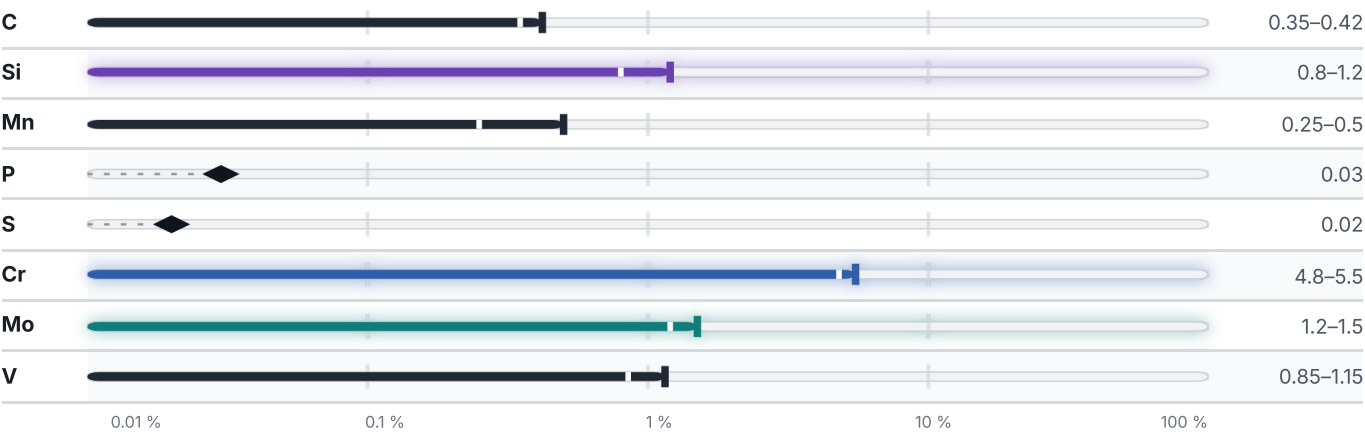
Chemical composition

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

Not enough recorded composition to predict a transformation temperature for this grade — missing: Ni.

## Mechanical properties

9 values across 4 conditions

| CONDITION · DIMENSION                                |                         | HB                      |         |        | HRC                      |
|------------------------------------------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Annealed                                             |                         | 229                     |         |        | —                        |
| Quenched and tempered                                |                         | —                       |         |        | 50                       |
| SOFT ANNEALED                                        |                         |                         |         |        | HB                       |
| Soft annealed                                        |                         |                         |         |        | 229                      |
| 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> |
| Quenching 1020°C, oil, Drawing<br>580°C, 2h          | 1670                    | 1470                    | 10      | 40     | 390                      |
| CONDITION · DIMENSION                                |                         |                         |         |        | HB                       |
| 4KH5MF1S ( 4X5MΦ1C ) (annealing) ,<br>GOST 5950-2000 |                         |                         |         |        | 241                      |

## Physical properties

5 values

| CONDITION · DIMENSION    | RHO<br>g/cm <sup>3</sup> | E<br>GPa | LAMBDA<br>W/(m·K) | RHO_EL<br>nΩ·m |
|--------------------------|--------------------------|----------|-------------------|----------------|
| 20                       | 7.716                    | 207      | 22                | 553            |
| 100                      | 7.692                    | –        | 25                | 591            |
| 200                      | 7.66                     | –        | 27                | 649            |
| 300                      | 7.627                    | 187      | 29                | 715            |
| 400                      | 7.593                    | –        | 30                | 793            |
| 500                      | 7.559                    | –        | 31                | 879            |
| 600                      | 7.523                    | 160      | 31                | 970            |
| 700                      | 7.49                     | –        | 31                | 1077           |
| 800                      | 7.459                    | –        | 31                | 1189           |
| 900                      | 7.438                    | –        | 32                | 1229           |
| PROPERTY                 | VALUE                    |          | UNIT              |                |
| Density                  | 7.78                     |          | g/cm <sup>3</sup> |                |
| Transformation point Ac1 | 875                      |          | °C                |                |
| Transformation point Ac3 | 935                      |          | °C                |                |
| Transformation point Ar3 | 815                      |          | °C                |                |
| Transformation point Ar1 | 760                      |          | °C                |                |

## Heat treatment

2 regimes

| STEP      | TEMPERATURE            | MEDIUM |
|-----------|------------------------|--------|
| Quenching | Temperature not stated | —      |
| Annealing | Temperature not stated | —      |

## Designations across standards

49 designations · 3 documented as identical

|                                           |          |                                                |        |
|-------------------------------------------|----------|------------------------------------------------|--------|
| <b>United States</b>                      | 8        | <b>China</b>                                   | 3      |
| T20811                                    | uns      | 40CrMoV5                                       | gb     |
| T20813 <span>This grade's own name</span> | uns      | 4Cr5MoSiV1                                     | gb     |
| ASTM H13                                  | aisi-sae | SM4Cr5MoSiV1                                   | gb     |
| H11                                       | aisi-sae |                                                |        |
| H13 <span>This grade's own name</span>    | aisi-sae | <b>Poland</b>                                  | 3      |
| H13 ASTM H13                              | aisi-sae | L40H5MF                                        | pn     |
| T20811                                    | aisi-sae | WCL                                            | pn     |
| T20813                                    | aisi-sae | WCLV                                           | pn     |
| <b>Russia / CIS</b>                       | 5        | <b>Europe</b>                                  | 2      |
| 4Ch5MF1S                                  | gost     | 1.2344                                         | din-en |
| 4KH5MF1S                                  | gost     | X40CrMoV5-1 <span>This grade's own name</span> | din-en |
| 4Kh5MFS                                   | gost     |                                                |        |
| 4X5MΦ1C                                   | gost     | <b>United Kingdom</b>                          | 2      |
| ЭП572                                     | gost     | 2344                                           | bs     |
|                                           |          | BH13                                           | bs     |
| <b>Spain</b>                              | 4        | <b>Sweden</b>                                  | 2      |
| F.5318                                    | une      | 2214                                           | ss     |
| F.5318X40CrMoV5                           | une      | 2242                                           | ss     |
| X40CrMoV5                                 | une      |                                                |        |
| X40CrMoV5                                 | une      | <b>Hungary</b>                                 | 2      |
| <b>Italy</b>                              | 4        | K13                                            | msz    |
| UD14                                      | uni      | K13K                                           | msz    |
| X35CrMoV05KU                              | uni      |                                                |        |
| X40CrMoV51KU                              | uni      | <b>Japan</b>                                   | 1      |
| X40CrMoV5-1-1KU                           | uni      | SKD61                                          | jis    |
| <b>France</b>                             | 3        | <b>Czechia</b>                                 | 1      |
| Z40CDV5                                   | afnor    | 19554                                          | csn    |
| Z40CDV5-1                                 | afnor    |                                                |        |
| X40CrMoV5                                 | afnor    | <b>Slovakia</b>                                | 1      |
|                                           |          | 19 554                                         | stn    |
| <b>International</b>                      | 3        | <b>Serbia</b>                                  | 1      |
| 40CrMoV5                                  | iso      | Č.4753                                         | srps   |
| X37CrMoV5-1                               | iso      |                                                |        |
| X40CrMoV5-1                               | iso      | <b>Romania</b>                                 | 1      |
|                                           |          | 40VSiMoCr52                                    | stas   |

|                 |       |                    |    |
|-----------------|-------|--------------------|----|
| <b>Bulgaria</b> | 1     | <b>South Korea</b> | 1  |
| X40CrMoV5-1     | bds   | STD61              | ks |
| <b>Austria</b>  | 1     |                    |    |
| W302            | 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 Z40CDV5-1**  
Quotation, availability, mill certificate or a technical question — directly on the material page.

[Start an enquiry](#)

|                         |                     |                     |               |
|-------------------------|---------------------|---------------------|---------------|
| <b>DATASHEET ONLINE</b> | <b>GRADE SEARCH</b> | <b>MATERIAL NO.</b> | <b>ISSUED</b> |
| View the material page  | Search all grades   | 1.2344              | Aug 20, 2026  |