

MATERIAL NUMBER 1.3520 · CLASS 1.3

# NCMS

## Material no. 1.3520

also listed as 100CrMn6

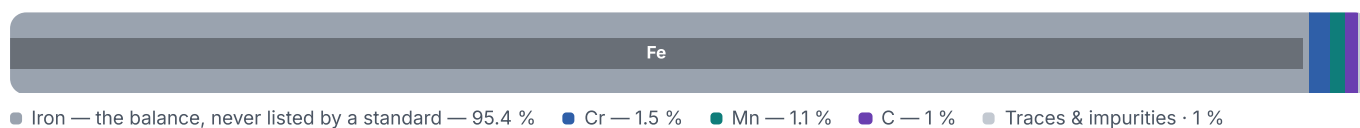
Chemical composition, mechanical and physical property values, and 33 standard designations from 15 regions.

| DENSITY                       | OTHER DESIGNATIONS      | PROPERTY VALUES   |
|-------------------------------|-------------------------|-------------------|
| <b>7.56</b> g/cm <sup>3</sup> | <b>33</b> in 15 regions | <b>15</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, Mo.

Mechanical properties

6 values across 2 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> |
|-----------------------------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Steel                                   | 590–730                 | 370–410                 | 20      | 45     | 440                      |
| CONDITION · DIMENSION                   |                         |                         |         |        | HB                       |
| (hot-rolled) , Rolled stock GOST 801-78 |                         |                         |         |        | 179–217                  |

Physical properties

6 values

| CONDITION · DIMENSION    | RHO<br>g/cm <sup>3</sup> | E<br>GPa | ALPHA<br>10 <sup>^-6</sup> /K |  |
|--------------------------|--------------------------|----------|-------------------------------|--|
| 20                       | 7.65                     | 211      | –                             |  |
| 200                      | –                        | –        | 13.4                          |  |
| 300                      | –                        | –        | 13.6                          |  |
| PROPERTY                 |                          | VALUE    | UNIT                          |  |
| Density                  |                          | 7.56     | g/cm <sup>3</sup>             |  |
| Transformation point Ac1 |                          | 750      | °C                            |  |
| Transformation point Ac3 |                          | 910      | °C                            |  |
| Transformation point Ar1 |                          | 688      | °C                            |  |

Technological properties

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

Designations across standards

33 designations · 5 documented as identical

|               |                       |          |              |                       |      |
|---------------|-----------------------|----------|--------------|-----------------------|------|
| United States |                       | 7        | Russia / CIS |                       | 4    |
| A 485         |                       | uns      | Šch15SG      |                       | gost |
| K19195        | This grade's own name | uns      | SchCh15SG    | This grade's own name | gost |
| A485          |                       | aisi-sae | SHKH15SG     |                       | gost |
| Gr.2          |                       | aisi-sae | ШХ15СГ       |                       | gost |
| K19195        |                       | aisi-sae |              |                       |      |
| A485          |                       | astm     | China        |                       | 3    |
| A485 Gr1      | This grade's own name | astm     | Cr9SiMn      |                       | gb   |
|               |                       |          | GCr15SiMn    |                       | gb   |
|               |                       |          | GCr9SiMn     |                       | gb   |

|                                                 |        |                       |      |
|-------------------------------------------------|--------|-----------------------|------|
| <b>Poland</b>                                   | 3      | <b>Romania</b>        | 2    |
| LH15SG                                          | pn     | RUL2                  | stas |
| ŁH15SG                                          | pn     | RUL2v                 | stas |
| NCMS                                            | pn     |                       |      |
| <b>Europe</b>                                   | 2      | <b>United Kingdom</b> | 1    |
| 100CrMn6 <span>This grade's own name</span>     | din-en | 535A99                | bs   |
| 100CrMnSi6-4 <span>This grade's own name</span> | din-en | <b>Japan</b>          | 1    |
| <b>France</b>                                   | 2      | SUJ3                  | jis  |
| 100CM6                                          | afnor  | <b>Czechia</b>        | 1    |
| 100CrMn6                                        | afnor  | 14209                 | csn  |
| <b>Spain</b>                                    | 2      | <b>Slovakia</b>       | 1    |
| 100CrMn6                                        | une    | 14 209                | stn  |
| F-1312                                          | une    | <b>Hungary</b>        | 1    |
| <b>International</b>                            | 2      | GO4                   | msz  |
| 100CrMnSi6-4                                    | iso    | <b>Bulgaria</b>       | 1    |
| 3520                                            | iso    | SchCh15SG             | bds  |

**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 NCMS

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

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#### ISSUED

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