

MATERIAL NUMBER 1.1152 · CLASS 1.1

# 20FL

## Material no. 1.1152

also listed as C20E2C

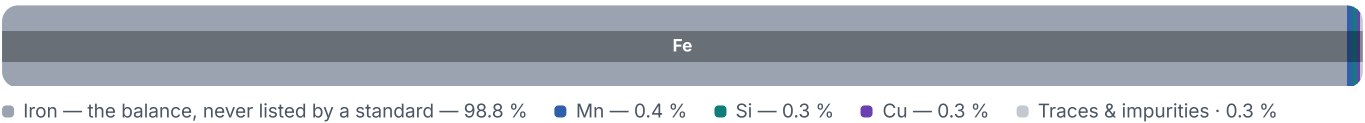
Chemical composition, mechanical and physical property values, and 41 standard designations from 4 regions.

|                                          |                                              |                                      |
|------------------------------------------|----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>41</b> in 4 regions | PROPERTY VALUES<br><b>11</b> on file |
|------------------------------------------|----------------------------------------------|--------------------------------------|

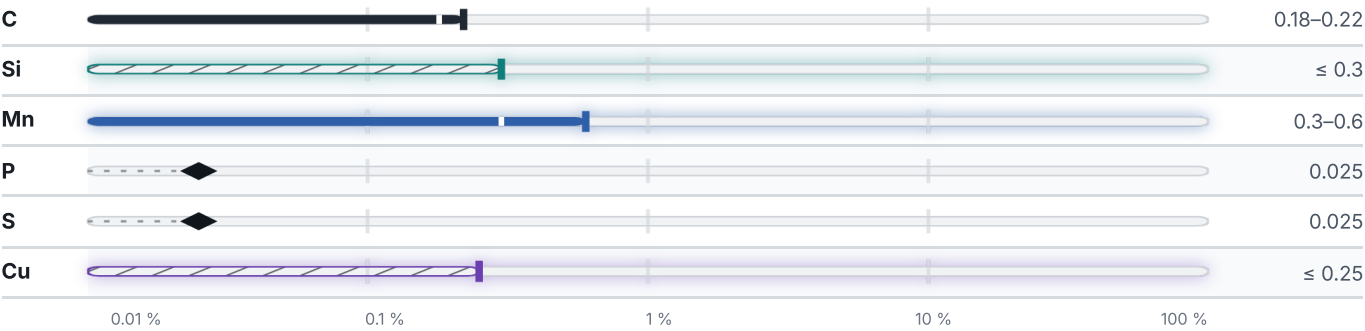
### Chemical composition

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, Cr, Mo.

## Mechanical properties

9 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> |
|------------------------------------------|-------------------------|-------------------------|---------|--------------------------|--------------------------|
| Normalizing 1100°C, Drawing 650°C,<br>6h | 1076                    | 958                     | 13.3    | 46.6                     | 150                      |
| CONDITION · DIMENSION                    | RM<br>N/mm <sup>2</sup> | A5<br>%                 | Z<br>%  | KCU<br>kJ/m <sup>2</sup> |                          |
| Bar                                      | 900                     | 15                      | 55      | 400                      |                          |

## Physical properties

5 values

| CONDITION · DIMENSION    | RHO<br>g/cm³ | E<br>GPa | LAMBDA<br>W/(m·K) |
|--------------------------|--------------|----------|-------------------|
| 20                       | 7.9          | 217      | –                 |
| 100                      | –            | 211      | 41                |
| 200                      | –            | 205      | 46.1              |
| 300                      | –            | 196      | 48.2              |
| 400                      | –            | 188      | 50.2              |
| 500                      | –            | 180      | 52.8              |
| 600                      | –            | 167      | 54.4              |
| 700                      | –            | 152      | 56.1              |
| PROPERTY                 |              | VALUE    | UNIT              |
| Density                  |              | 7.85     | g/cm³             |
| Transformation point Ac1 |              | 810      | °C                |
| Transformation point Ac3 |              | 950      | °C                |
| Transformation point Ar3 |              | 800      | °C                |
| Transformation point Ar1 |              | 690      | °C                |

Designations across standards

41 designations · 4 documented as identical

| Russia / CIS |  | 35   | Europe         |                       | 3        |
|--------------|--|------|----------------|-----------------------|----------|
| 20           |  | gost | 20kp           |                       | din-en   |
| 20-PV        |  | gost | C20E2C         | This grade's own name | din-en   |
| 20A          |  | gost | Cq 22          | This grade's own name | din-en   |
| 20DKHL       |  | gost | United States2 |                       |          |
| 20F          |  | gost | G10230         | This grade's own name | uns      |
| 20FA         |  | gost | 1023           | This grade's own name | aisi-sae |
| 20FL         |  | gost | Japan1         |                       |          |
| 20FTL        |  | gost | S22C           |                       | jis      |
| 20FYu        |  | gost |                |                       |          |
| 20GNMFL      |  | gost |                |                       |          |
| 20GNMYuL     |  | gost |                |                       |          |
| 20GS         |  | gost |                |                       |          |
| 20KHF        |  | gost |                |                       |          |
| 20KhFA       |  | gost |                |                       |          |
| 20KHGNR      |  | gost |                |                       |          |
| 20KHGNTR     |  | gost |                |                       |          |
| 20KHGR       |  | gost |                |                       |          |
| 20KHGSFL     |  | gost |                |                       |          |
| 20KHGSNDML   |  | gost |                |                       |          |
| 20KHGSA      |  | gost |                |                       |          |
| 20KhMFBR     |  | gost |                |                       |          |
| 20KHML       |  | gost |                |                       |          |
| 20KHN        |  | gost |                |                       |          |
| 20KHNR       |  | gost |                |                       |          |
| 20kp         |  | gost |                |                       |          |
| 20ps         |  | gost |                |                       |          |
| 20YuA        |  | gost |                |                       |          |
| 20YuCh       |  | gost |                |                       |          |
| 20YuChA      |  | gost |                |                       |          |
| PA-ZhKh20KB  |  | gost |                |                       |          |
| SHKH20SG     |  | gost |                |                       |          |
| Sv-20GSTYuA  |  | gost |                |                       |          |
| AS20KHGNM    |  | gost |                |                       |          |
| ATS20KHGNM   |  | gost |                |                       |          |
| X20K5        |  | 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 20FL

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 | 1.1152       | Aug 20, 2026 |