

MATERIAL NUMBER 1.7102 · CLASS 1.7

# SUP12

## Material no. 1.7102

also listed as 54SiCr6

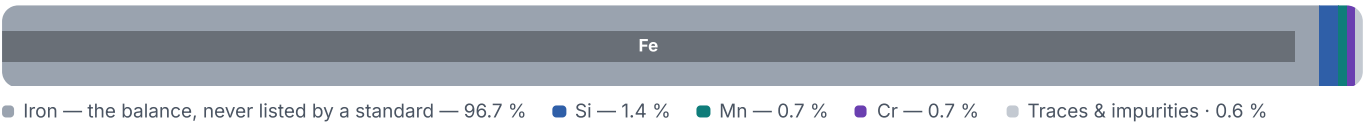
Chemical composition, mechanical and physical property values, and 32 standard designations from 14 regions.

|                                          |                                               |                                      |
|------------------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.46</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>32</b> in 14 regions | PROPERTY VALUES<br><b>13</b> on file |
|------------------------------------------|-----------------------------------------------|--------------------------------------|

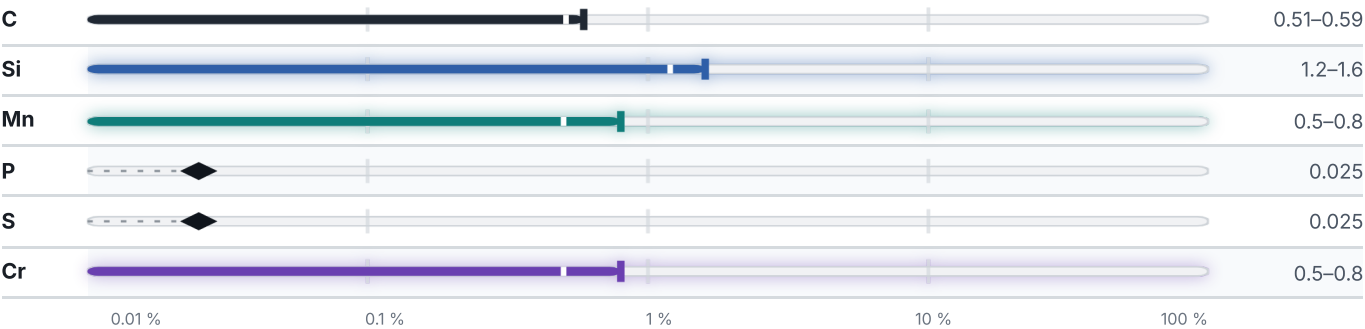
Chemical composition

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, Mo.

## Mechanical properties

9 values across 5 conditions

| CONDITION · DIMENSION                               |                         |                         |         | HB     |
|-----------------------------------------------------|-------------------------|-------------------------|---------|--------|
| (without heat treatment) , GOST 14959-79            |                         |                         |         | 321    |
| (heat treatment) , Rolled stock GOST 14959-79       |                         |                         |         | 285    |
| TREATED TO IMPROVE SHEARABILITY                     |                         |                         |         | HB     |
| Treated to improve shearability                     |                         |                         |         | 280    |
| SOFT ANNEALED                                       |                         |                         |         | HB     |
| Soft annealed                                       |                         |                         |         | 248    |
| CONDITION · DIMENSION                               | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A5<br>% | Z<br>% |
| Steel, GOST 14959-79                                | 1470                    | 1325                    | 6       | 25     |
| ANNEALED TO ACHIEVE SPHEROIDIZATION OF THE CARBIDES |                         |                         |         | HB     |
| Annealed to achieve spheroidization of the carbides |                         |                         |         | 230    |

## Physical properties

7 values

| CONDITION · DIMENSION    |       |                   | E<br>GPa |
|--------------------------|-------|-------------------|----------|
| 20                       |       |                   | 196      |
| PROPERTY                 | VALUE | UNIT              |          |
| Density                  | 7.46  | g/cm <sup>3</sup> |          |
| Transformation point Ac1 | 765   | °C                |          |
| Transformation point Ac3 | 780   | °C                |          |
| Transformation point Ar1 | 700   | °C                |          |

## Technological properties

| PROPERTY           | VALUE           | UNIT |
|--------------------|-----------------|------|
| Weldability        | is not used.    |      |
| Flake sensitivity  | not predisposed |      |
| Temper brittleness | not predisposed |      |

## Designations across standards

32 designations · 6 documented as identical

| United States  |                       | 6        | Japan         |                       | 2      |
|----------------|-----------------------|----------|---------------|-----------------------|--------|
| G92540         | This grade's own name | uns      | SUP12         |                       | jis    |
| K15590         | This grade's own name | uns      | SUP7          |                       | jis    |
| 9254           | This grade's own name | aisi-sae | Italy         |                       | 2      |
| 9260           |                       | aisi-sae |               |                       |        |
| G92540         |                       | aisi-sae |               | 48Si7                 | uni    |
| J157           | This grade's own name | aisi-sae |               | 60SiCr8               | uni    |
| Czechia        |                       | 4        | Poland        |                       | 2      |
| 13251          |                       | csn      | 60S2          |                       | pn     |
| 13270          |                       | csn      | 60S2A         |                       | pn     |
| 14240          |                       | csn      | Bulgaria      |                       | 2      |
| 14260          |                       | csn      |               |                       |        |
| United Kingdom |                       | 3        |               | 60S2A                 | bds    |
|                |                       |          |               | 60S2ChA               | bds    |
|                |                       |          |               | Europe                | 1      |
|                |                       |          |               |                       |        |
| 250A61         |                       | bs       | 54SiCr6       | This grade's own name | din-en |
| 685H57         |                       | bs       | International |                       | 1      |
| EN48A          | This grade's own name | bs       |               |                       |        |
| France         |                       | 3        | 55SiCr63      |                       | iso    |
|                |                       |          | China         |                       | 1      |
|                |                       |          |               |                       |        |
|                |                       |          |               | 60Si2CrA              | gb     |
| Russia / CIS   |                       | 3        | Sweden        |                       | 1      |
|                |                       |          |               |                       |        |
|                |                       |          | 2090          |                       | ss     |
|                |                       |          | Romania       |                       | 1      |
| 50S2           |                       | gost     |               |                       |        |
| 60S2KH         |                       | gost     | 60Si15A       |                       | stas   |
| 60C2XA         |                       | 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 SUP12

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

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## ISSUED

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