

MATERIAL NUMBER 1.2419 · CLASS 1.2

# 105WCr6

## Material no. 1.2419

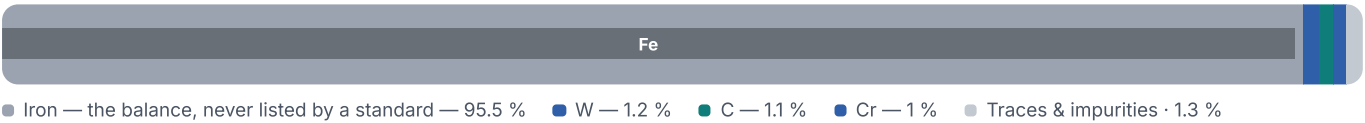
Chemical composition, mechanical and physical property values, and 32 standard designations from 16 regions.

|                                          |                                               |                                      |
|------------------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>32</b> in 16 regions | PROPERTY VALUES<br><b>14</b> on file |
|------------------------------------------|-----------------------------------------------|--------------------------------------|

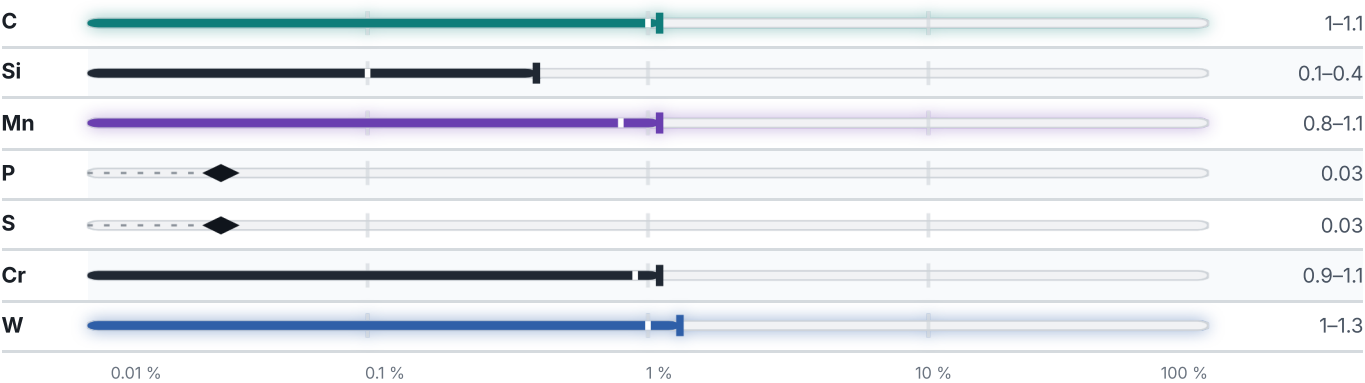
### Chemical composition

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

3 values across 2 conditions

| CONDITION · DIMENSION        | HB  | HRC |
|------------------------------|-----|-----|
| Annealed                     | 217 | –   |
| Quenched and tempered        | –   | 61  |
| CONDITION · DIMENSION        | HB  |     |
| (annealing) , GOST 5950-2000 | 255 |     |

Physical properties

7 values

| CONDITION · DIMENSION    | RHO<br>g/cm³ | ALPHA<br>10 <sup>-6</sup> /K | RHO_EL<br>nΩ·m |
|--------------------------|--------------|------------------------------|----------------|
| 20                       | 7.85         | –                            | 380            |
| 100                      | 7.83         | 11                           | –              |
| 200                      | –            | 12                           | –              |
| 300                      | 7.76         | 13                           | –              |
| 400                      | –            | 13.5                         | –              |
| 500                      | –            | 14                           | –              |
| 600                      | 7.66         | 14.5                         | –              |
| PROPERTY                 | VALUE        | UNIT                         |                |
| Density                  | 7.85         | g/cm³                        |                |
| Transformation point Ac1 | 750          | °C                           |                |
| Transformation point Ac3 | 940          | °C                           |                |
| Transformation point Ar1 | 710          | °C                           |                |

Technological properties

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

Heat treatment

2 regimes

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

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

## Designations across standards

32 designations · 1 documented as identical

|                                            |          |                      |      |
|--------------------------------------------|----------|----------------------|------|
| <b>France</b>                              | 4        | <b>Spain</b>         | 2    |
| 105WC13                                    | afnor    | 105WCr5              | une  |
| 105WCr5                                    | afnor    | F.5233               | une  |
| 106WCr6                                    | afnor    |                      |      |
| 90MCW5                                     | afnor    | <b>China</b>         | 2    |
| <b>Japan</b>                               | 4        | CrWMn                | gb   |
| SKS2                                       | jis      | CrWMo                | gb   |
| SKS3                                       | jis      |                      |      |
| SKS31                                      | jis      | <b>Italy</b>         | 2    |
| SKSA                                       | jis      | 100WCr6              | uni  |
|                                            |          | 107WCr5KU            | uni  |
| <b>United States</b>                       | 3        | <b>International</b> | 1    |
| T31507                                     | uns      | 105WCr1              | iso  |
| O7                                         | aisi-sae |                      |      |
| T31507                                     | aisi-sae | <b>Sweden</b>        | 1    |
| <b>Russia / CIS</b>                        | 3        | 2140                 | ss   |
| ChVG                                       | gost     | <b>Serbia</b>        | 1    |
| HVG                                        | gost     | Č.6440               | srps |
| KHVG                                       | gost     |                      |      |
| <b>South Korea</b>                         | 3        | <b>Poland</b>        | 1    |
| STS2                                       | ks       | NWC                  | pn   |
| STS3                                       | ks       | <b>Hungary</b>       | 1    |
| STS31                                      | ks       | W9                   | msz  |
| <b>Europe</b>                              | 2        | <b>Romania</b>       | 1    |
| 1.2419                                     | din-en   | 105MnCrW11           | stas |
| 105WCr6 <span>This grade's own name</span> | din-en   | <b>Bulgaria</b>      | 1    |
|                                            |          | ChWG                 | 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 105WCr6

[Start an enquiry](#)

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

## DATASHEET ONLINE

View the material page

## GRADE SEARCH

Search all grades

## MATERIAL NO.

1.2419

## ISSUED

Aug 20, 2026