

MATERIAL NUMBER 1.2581 · CLASS 1.2

# F.5323

Material no. 1.2581

also listed as X30WCrV9-3

Chemical composition, mechanical and physical property values, and 33 standard designations from 18 regions.

|                                          |                                               |                                      |
|------------------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>33</b> in 18 regions | PROPERTY VALUES<br><b>16</b> on file |
|------------------------------------------|-----------------------------------------------|--------------------------------------|

## Chemical composition

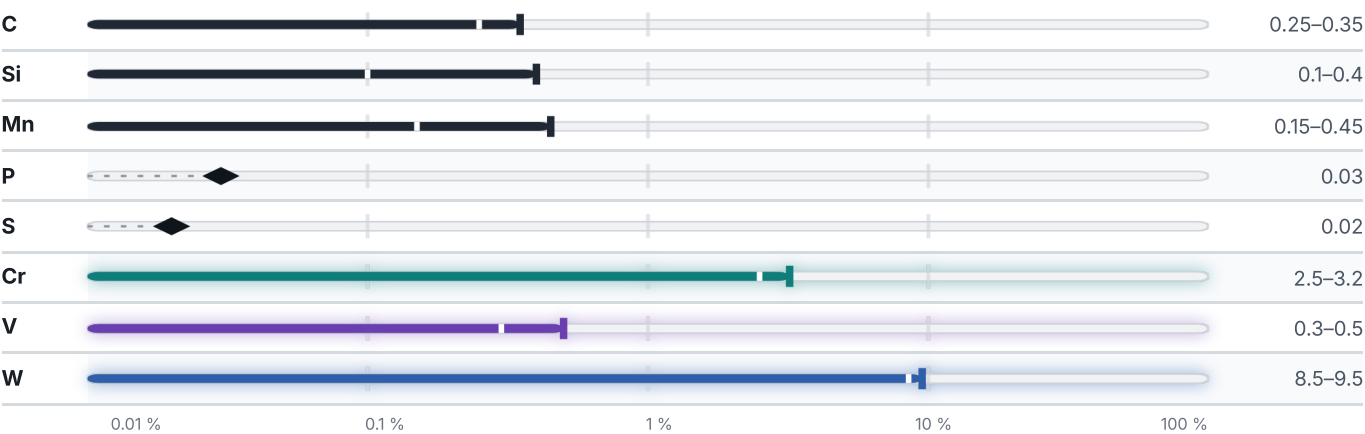
Mass fraction in %

What this alloy is



● Iron — the balance, never listed by a standard — 86.9 % ● W — 9 % ● Cr — 2.9 % ● V — 0.4 % ● Traces & impurities · 0.9 %

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 4 conditions

| CONDITION · DIMENSION |                         | HB                      |         |        | HRC                      |
|-----------------------|-------------------------|-------------------------|---------|--------|--------------------------|
| Annealed              |                         | 241                     |         |        | –                        |
| Quenched and tempered |                         | –                       |         |        | 48                       |
| SOFT ANNEALED         |                         |                         |         |        | HB                       |
| Soft annealed         |                         |                         |         |        | 241                      |
| 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                 | 1530                    | 1390                    | 12      | 36     | 200                      |
| CONDITION · DIMENSION |                         |                         |         |        | HB                       |
| (annealing)           |                         |                         |         |        | 241                      |

## Physical properties

8 values

| CONDITION · DIMENSION    | E<br>GPa | LAMBDA<br>W/(m·K) | RHO_EL<br>nΩ·m |  |
|--------------------------|----------|-------------------|----------------|--|
| 20                       | 224      | –                 | –              |  |
| 100                      | 218      | 25                | 250            |  |
| 200                      | 211      | 27                | 200            |  |
| 300                      | 204      | 29                | 170            |  |
| 400                      | 196      | 40                | 140            |  |
| 500                      | 187      | 46                | 120            |  |
| 600                      | 177      | 50                | –              |  |
| PROPERTY                 | VALUE    | UNIT              |                |  |
| Density                  | 7.85     | g/cm <sup>3</sup> |                |  |
| Transformation point Ac1 | 800      | °C                |                |  |
| Transformation point Ac3 | 850      | °C                |                |  |
| Transformation point Ar3 | 750      | °C                |                |  |
| Transformation point Ar1 | 690      | °C                |                |  |

## Technological properties

| PROPERTY    | VALUE        | UNIT |
|-------------|--------------|------|
| Weldability | is not used. |      |

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

## Heat treatment

3 regimes

| STEP      | TEMPERATURE            | MEDIUM |
|-----------|------------------------|--------|
| Quenching | Temperature not stated | —      |
| Quenching | 1070–1125 °C           | Oil    |
| Annealing | Temperature not stated | —      |

## Designations across standards

33 designations · 3 documented as identical

|                                               |          |                      |       |
|-----------------------------------------------|----------|----------------------|-------|
| <b>Spain</b>                                  | 4        | <b>Italy</b>         | 2     |
| F.5320                                        | une      | X28W09KU             | uni   |
| F.5323                                        | une      | X30WCrV9-3KU         | uni   |
| WCrV9                                         | une      |                      |       |
| X30WCrV9                                      | une      | <b>Czechia</b>       | 2     |
|                                               |          | 19721                | csn   |
| <b>United States</b>                          | 3        | 19830                | csn   |
| T20821 <span>This grade's own name</span>     | uns      |                      |       |
| H21 <span>This grade's own name</span>        | aisi-sae | <b>Poland</b>        | 2     |
| T20821                                        | aisi-sae | WWV                  | pn    |
|                                               |          | WWW                  | pn    |
| <b>Europe</b>                                 | 2        |                      |       |
| 1.2581                                        | din-en   | <b>Bulgaria</b>      | 2     |
| X30WCrV9-3 <span>This grade's own name</span> | din-en   | 3Ch2B8F              | bds   |
|                                               |          | X30WCrV9-3           | bds   |
| <b>United Kingdom</b>                         | 2        |                      |       |
| 2581                                          | bs       | <b>Austria</b>       | 2     |
| BH21                                          | bs       | BOHLERW100           | onorm |
|                                               |          | W100                 | onorm |
| <b>France</b>                                 | 2        |                      |       |
| X30WCrV9                                      | afnor    | <b>International</b> | 1     |
| Z30WCV9                                       | afnor    | X30WCrV9-3           | iso   |
|                                               |          |                      |       |
| <b>China</b>                                  | 2        | <b>Japan</b>         | 1     |
| 30WCrV9                                       | gb       | SKD5                 | jis   |
| 3Cr2W8V                                       | gb       |                      |       |
|                                               |          | <b>Slovakia</b>      | 1     |
| <b>Russia / CIS</b>                           | 2        | 19 721               | stn   |
| 3KH2V8F                                       | gost     |                      |       |
| 3X2B8Φ                                        | gost     | <b>Serbia</b>        | 1     |
|                                               |          | Č.6451               | srps  |

|          |      |             |    |
|----------|------|-------------|----|
| Romania  | 1    | South Korea | 1  |
| 30VCrW85 | stas | STD5        | ks |

**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 F.5323

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

[Start an enquiry](#)

|                        |                   |              |              |
|------------------------|-------------------|--------------|--------------|
| DATASHEET ONLINE       | GRADE SEARCH      | MATERIAL NO. | ISSUED       |
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