

MATERIAL NUMBER 1.0528 · CLASS 1.0

# PKh30

Material no. 1.0528

also listed as C30

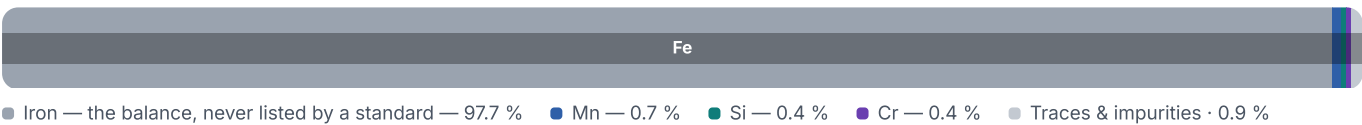
Chemical composition, mechanical and physical property values, and 54 standard designations from 14 regions.

|                              |                                               |                                      |
|------------------------------|-----------------------------------------------|--------------------------------------|
| DENSITY<br><b>7.85</b> g/cm³ | OTHER DESIGNATIONS<br><b>54</b> in 14 regions | PROPERTY VALUES<br><b>16</b> on file |
|------------------------------|-----------------------------------------------|--------------------------------------|

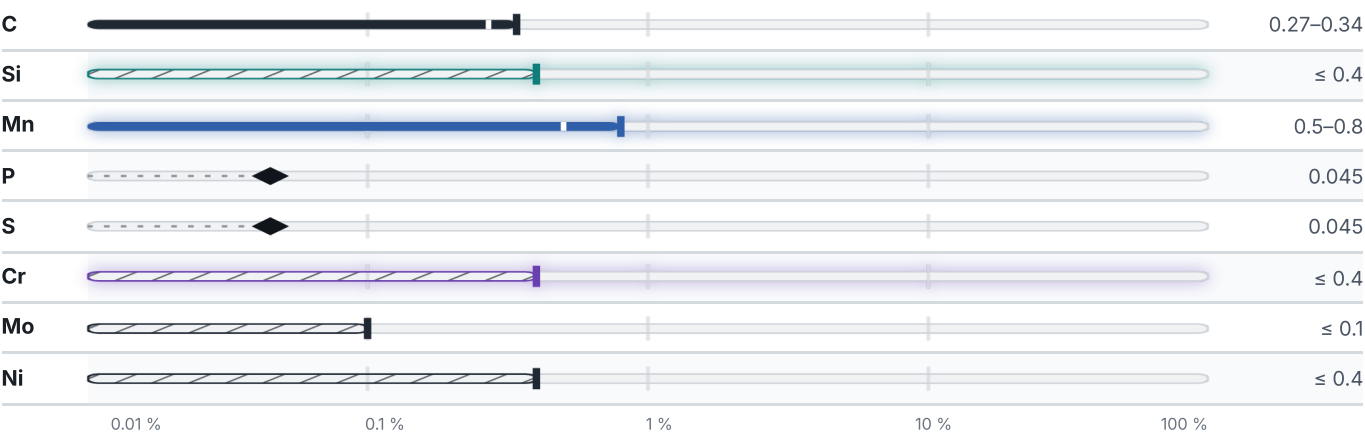
## Chemical composition

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

computed from composition · °C

|                                |                                |                                |                               |
|--------------------------------|--------------------------------|--------------------------------|-------------------------------|
| PREDICTED AE3<br><b>792</b> °C | PREDICTED AE1<br><b>724</b> °C | PREDICTED ACM<br><b>539</b> °C | PREDICTED BS<br><b>566</b> °C |
|--------------------------------|--------------------------------|--------------------------------|-------------------------------|

## Mechanical properties

21 values across 4 conditions

| CONDITION · DIMENSION                   | RM<br>N/mm <sup>2</sup> | A5<br>%                 | Z<br>%  | HB     |
|-----------------------------------------|-------------------------|-------------------------|---------|--------|
| Rolled stock cold-worked , GOST 1050-88 | 560                     | 7                       | 35      | –      |
| Rolled stock annealed , GOST 1050-88    | 440                     | 17                      | 45      | –      |
| Band annealed , GOST 2284-79            | 390–640                 | 16                      | –       | –      |
| Band cold-worked , GOST 2284-79         | 640–930                 | –                       | –       | –      |
| Sheet GOST 4041-71                      | –                       | –                       | –       | 149    |
| Rolled stock GOST 1050-88               | –                       | –                       | –       | 229    |
| NORMALIZED                              | RM<br>N/mm <sup>2</sup> | A5<br>%                 | Z<br>%  | HB     |
| ≤ 100                                   | 480                     | –                       | –       | 21     |
| 100 – 250                               | 460                     | –                       | –       | 21     |
| CONDITION · DIMENSION                   | RM<br>N/mm <sup>2</sup> | A5<br>%                 | Z<br>%  | HB     |
| 4 - 14                                  | 430–590                 | –                       | –       | 24     |
| NORMALIZING                             | RM<br>N/mm <sup>2</sup> | RE<br>N/mm <sup>2</sup> | A5<br>% | Z<br>% |
| to 80                                   | 490                     | 295                     | 21      | 50     |

## Physical properties

8 values

| CONDITION · DIMENSION    | RHO<br>g/cm <sup>3</sup> | E<br>GPa          | ALPHA<br>10 <sup>−6</sup> /K | LAMBDA<br>W/(m·K) | CP<br>J/(kg·K) |
|--------------------------|--------------------------|-------------------|------------------------------|-------------------|----------------|
| 20                       | 7.85                     | 200               | –                            | 52                | –              |
| 100                      | –                        | 196               | 12.1                         | 51                | 470            |
| 200                      | –                        | 191               | 12.9                         | 49                | 483            |
| 300                      | –                        | 185               | 13.6                         | 46                | 546            |
| 400                      | –                        | –                 | 14.2                         | 43                | 563            |
| 500                      | –                        | –                 | 14.7                         | 39                | 764            |
| 600                      | –                        | 164               | 15                           | 36                | –              |
| 700                      | –                        | –                 | 15.2                         | 32                | –              |
| PROPERTY                 | VALUE                    | UNIT              |                              |                   |                |
| Density                  | 7.85                     | g/cm <sup>3</sup> |                              |                   |                |
| Transformation point Ac1 | 730                      | °C                |                              |                   |                |

| PROPERTY                 | VALUE | UNIT |
|--------------------------|-------|------|
| Transformation point Ac3 | 820   | °C   |
| Transformation point Ar3 | 796   | °C   |
| Transformation point Ar1 | 680   | °C   |

Technological properties

| PROPERTY           | VALUE                | UNIT |
|--------------------|----------------------|------|
| Weldability        | limited weldability. |      |
| Flake sensitivity  | not predisposed      |      |
| Temper brittleness | not predisposed      |      |

Heat treatment

1 regimes

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

Designations across standards

54 designations · 3 documented as identical

|               |                       |          |                 |  |       |
|---------------|-----------------------|----------|-----------------|--|-------|
| Russia / CIS  |                       | 15       | United Kingdom  |  | 5     |
| 30            | gost                  |          | 060A30          |  | bs    |
| 30GL          | gost                  |          | 080A32          |  | bs    |
| 30KHGFRL      | gost                  |          | 080M32          |  | bs    |
| 30KHGS        | gost                  |          | C30 C30E C30R   |  | bs    |
| 30KHGSFL      | gost                  |          | En5             |  | bs    |
| 30KhGSNMA     | gost                  |          | Japan           |  | 5     |
| 30KHGT        | gost                  |          | S28C            |  | jis   |
| 30KhL         | gost                  |          | S30C            |  | jis   |
| 30KhML        | gost                  |          | S33C            |  | jis   |
| 30KHRA        | gost                  |          | SWRCH30K        |  | jis   |
| CHVG30        | gost                  |          | SWRCH33K        |  | jis   |
| CHYU30        | gost                  |          | France          |  | 4     |
| PKh30         | gost                  |          | AF50C30         |  | afnor |
| AS30KHM       | gost                  |          | C30E            |  | afnor |
| ASTS30KHM     | gost                  |          | FR32            |  | afnor |
| United States |                       | 5        | XC32            |  | afnor |
| G10300        | This grade's own name | uns      | International   |  | 4     |
| 1030          | This grade's own name | aisi-sae | C30             |  | iso   |
| G10300        |                       | aisi-sae | C30 C30E4 C30M2 |  | iso   |
| M1031         |                       | aisi-sae | C30E            |  | iso   |
| SAE1030       |                       | aisi-sae | C30E4           |  | iso   |

|                                        |        |          |      |
|----------------------------------------|--------|----------|------|
| Europe                                 | 3      | Poland   | 3    |
| 1.0528                                 | din-en | 30       | pn   |
| C30 <span>This grade's own name</span> | din-en | 30A      | pn   |
| Ck30                                   | din-en | 30rs     | pn   |
| China                                  | 3      | Czechia  | 1    |
| 30                                     | gb     | 12031    | csn  |
| ML25Mn                                 | gb     | Slovakia | 1    |
| ML30                                   | gb     | 12 031   | stn  |
| Italy                                  | 3      | Romania  | 1    |
| C30                                    | uni    | OLC30    | stas |
| C30E                                   | uni    | Bulgaria | 1    |
| C30R                                   | uni    | 30       | 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 PKh30

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

[Start an enquiry](#)

|                        |                   |              |              |
|------------------------|-------------------|--------------|--------------|
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