

MATERIAL NUMBER 1.0595 · CLASS 1.0

# SM490YB

Material no. 1.0595

also listed as S355K2

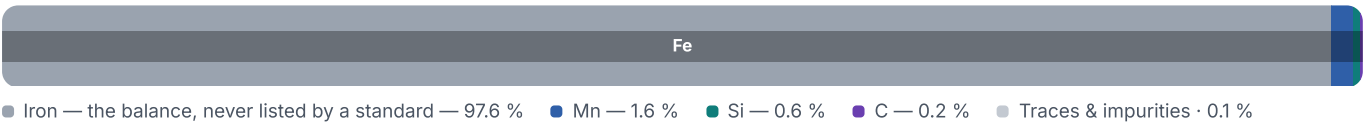
Chemical composition, mechanical and physical property values, and 11 standard designations from 8 regions.

|                                          |                                              |                                     |
|------------------------------------------|----------------------------------------------|-------------------------------------|
| DENSITY<br><b>7.85</b> g/cm <sup>3</sup> | OTHER DESIGNATIONS<br><b>11</b> in 8 regions | PROPERTY VALUES<br><b>6</b> on file |
|------------------------------------------|----------------------------------------------|-------------------------------------|

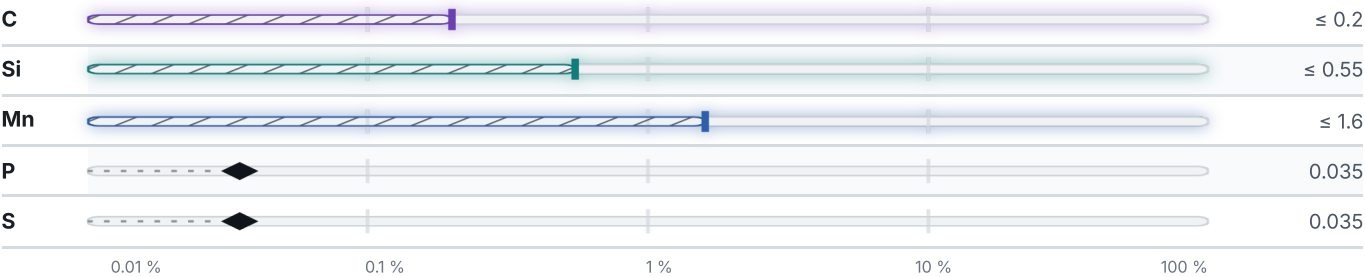
Chemical composition

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

26 values across 3 conditions

| FLAT AND LONG PRODUCTS | REH<br>N/mm <sup>2</sup> | RM<br>N/mm <sup>2</sup> |
|------------------------|--------------------------|-------------------------|
| ≤ 3                    | —                        | 510–680                 |

| FLAT AND LONG PRODUCTS | REH<br>N/mm <sup>2</sup> | RM<br>N/mm <sup>2</sup> |        |
|------------------------|--------------------------|-------------------------|--------|
| 3 – 100                | –                        | 470–630                 |        |
| ≤ 16                   | 355                      | –                       |        |
| 16 – 40                | 345                      | –                       |        |
| 40 – 63                | 335                      | –                       |        |
| 63 – 80                | 325                      | –                       |        |
| 80 – 100               | 315                      | –                       |        |
| 100 – 150              | 295                      | 450–600                 |        |
| 150 – 250              | –                        | 450–600                 |        |
| 150 – 200              | 285                      | –                       |        |
| 200 – 250              | 275                      | –                       |        |
| 250 – 400              | –                        | 450–600                 |        |
| CONDITION · DIMENSION  | A80<br>% · Lo = 80 mm    | A<br>% · Lo = 5,65 √So  |        |
| ≤ 1                    | 14                       | –                       |        |
| 1– 1.5                 | 15                       | –                       |        |
| 1.5 – 2                | 16                       | –                       |        |
| 2 – 2.5                | 17                       | –                       |        |
| 2.5 – 3                | 18                       | –                       |        |
| 3 – 40                 | –                        | 22                      |        |
| 40 – 63                | –                        | 21                      |        |
| 63 – 100               | –                        | 20                      |        |
| 100 – 150              | –                        | 18                      |        |
| 150 – 250              | –                        | 17                      |        |
| CONDITION · DIMENSION  | RM<br>N/mm <sup>2</sup>  | RE<br>N/mm <sup>2</sup> | A<br>% |
| Hot-rolled             | 490–610                  | 325–365                 | 15–21  |

## Physical properties

1 values

| PROPERTY | VALUE | UNIT              |
|----------|-------|-------------------|
| Density  | 7.85  | g/cm <sup>3</sup> |

Designations across standards

11 designations · 3 documented as identical

|                                             |        |                                            |      |
|---------------------------------------------|--------|--------------------------------------------|------|
| Europe                                      | 4      | Japan                                      | 1    |
| Fe510DD1                                    | din-en | SM490YB                                    | jis  |
| S355K2 <span>This grade's own name</span>   | din-en |                                            |      |
| S355K2(+N)                                  | din-en | Portugal                                   | 1    |
| S355K2G3 <span>This grade's own name</span> | din-en | Fe510-DD                                   | np   |
| United Kingdom                              | 1      | South Africa                               | 1    |
| 50DD                                        | bs     | 350WD                                      | sans |
| France                                      | 1      | Belgium                                    | 1    |
| E36-4                                       | afnor  | AE355-DD                                   | nbn  |
|                                             |        | South Korea                                | 1    |
|                                             |        | SM490YB <span>This grade's own name</span> | 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 SM490YB

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

[Start an enquiry](#)

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