

## P265S

### Steels for the manufacture of simple pressure vessels

|                        |                     |
|------------------------|---------------------|
| Material no.           | 1.0130              |
| according to           | DIN EN 10207 (2005) |
| Tensile strength class | A                   |

#### Usage

These steel grades are characterised by a good weldability.

The user of these steel grades must make sure that his calculation, design and processing methods are appropriate for the material.

#### Chemical composition <sup>1)</sup>

(in percent by weight)

|    | min.                 | max.   |
|----|----------------------|--------|
| C  |                      | 0.200% |
| Si |                      | 0.400% |
| Mn | 0.500%               | 1.500% |
| P  |                      | 0.025% |
| S  |                      | 0.025% |
| Al | 0.020% <sup>2)</sup> |        |

1) Heat analysis

<sup>2)</sup> The minimum aluminium content does not apply if the steel contains sufficient quantities of other nitrogen-fixing elements.

#### Notch impact energy

If agreed in the order, the notch impact energy is proved using longitudinal samples at -20 °C. Average values of 3 samples; one individual value may fall short of the required minimum value by not more than 30 %.

The sample width shall equal the product thickness if the latter is between 6 and 10 mm. The tests are performed by using samples similar to Charpy-V samples.

The values specified in the table above are to be reduced proportionally to the sample width.

#### Mechanical properties <sup>1)</sup>

| Nom. thick. e | Yield strength R <sub>p0,2</sub> |
|---------------|----------------------------------|
| < 16 mm       | ≥ 265 MPa                        |
| ≥ 16 mm       | ≥ 255 MPa                        |

| Nom. thick. e | Tensile strength R <sub>m</sub> |
|---------------|---------------------------------|
|               | 410 – 530 MPa                   |

| Nom. thick. e  | Total elongation A <sup>2)</sup> |
|----------------|----------------------------------|
| 2 < e ≤ 2.5 mm | ≥ 17 %                           |
| 2.5 < e < 3 mm | ≥ 18 %                           |
| ≥ 3 mm         | ≥ 22 %                           |

1) It applies to nominal thickness e:

e < 3 mm: A<sub>B0</sub>

e ≥ 3 mm: A<sub>5</sub>

#### Yield point at elevated temperature

| Test temperature | Yield point at elev. temperature R <sub>p0,2</sub> |
|------------------|--|
| 100°C            | ≥ 194 MPa  |
| 150°C            | ≥ 185 MPa  |
| 200°C            | ≥ 176 MPa  |
| 250°C            | ≥ 158 MPa  |
| 300°C            | ≥ 140 MPa  |

#### Available dimensions

Hot-rolled coils unpickled, mill edge

| Thickness in mm | Width in mm |
|-----------------|-------------|
| 1.50 – 1.79     | 900 – 1250  |
| 1.80 – 1.99     | 900 – 1390  |
| 2.00 – 2.24     | 900 – 1540  |
| 2.25 – 2.49     | 900 – 1700  |
| 2.50 – 2.99     | 900 – 1880  |
| 3.00 – 3.99     | 900 – 1880  |
| 4.00 – 6.00     | 900 – 1880  |
| 6.01 – 12.70    | 900 – 1880  |

Widths < 900 mm and thicknesses > 12.70 mm on request

#### Hot-rolled slit strip

| Thickness in mm | Width in mm |
|-----------------|-------------|
| 1.50 – 1.79     | 100 – 515   |
| 1.80 – 1.99     | 100 – 635   |
| 2.00 – 2.24     | 100 – 760   |
| 2.25 – 7.00     | 100 – 800   |
| 7.01 – 8.00     | 140 – 800   |
| 8.01 – 9.00     | 175 – 800   |
| 9.01 – 10.00    | 233 – 800   |

Widths < 100 mm on request

#### Welding

The steel grades of this series may be welded by means of the usual welding techniques.

#### Condition of delivery, scope of testing and certificate

The products are delivered in a condition obtained by normalised rolling. The provisions of EN 10207 shall apply for delivery and inspection, chapters 8.2 and 9.