Plates of S890Q steel grade
Fine-grain structural steel after quenching and tempering

Products description
S890Q – structural high-strength steel with minimum yield strength of 890 MPa supplied in quenched and tempered condition (Q). Plates of S890 steel grade comply with EN 10025-6 standard. It is typically used in structures bearing extreme loads – in the production of mining and heavy construction equipment, crane facilities, offshore drilling rigs and supports for offshore wind mills as well as in the construction of bridges and trestles.

Available dimensions
Plates of S890 steel grade are available with thicknesses of 12-25 mm. Available width of plates is up to 3200 mm, length – up to 12200 mm. Plates are supplied with edges trimmed or flame cut.

Mechanical properties under EN 10025-6

<table>
<thead>
<tr>
<th>Thickness, mm</th>
<th>Yield strength, min MPa</th>
<th>Tensile strength, MPa</th>
<th>Elongation, min %</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥12 t ≤50</td>
<td>890</td>
<td>940-1100</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel grade</th>
<th>Impact energy KV, min J</th>
</tr>
</thead>
<tbody>
<tr>
<td>S890Q</td>
<td>0</td>
</tr>
</tbody>
</table>

Chemical composition (max %)
According to Metinvest production

| C     | Si       | Mn   | P    | S    | N    | B    | Cr   | Cu   | Mo   | Nb   | Ni   | V    |
|-------|----------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0.15-0.18 | 0.20-0.40 | 1.00-1.20 | 0.020 | 0.005 | 0.015 | 0.0010-0.0020 | 0.50-0.70 | 0.50-0.70 | 0.015-0.025 | 0.80-1.00 | 0.050-0.080 |

Carbon equivalent

<table>
<thead>
<tr>
<th>CEV</th>
<th>CET</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55-0.70</td>
<td>0.36-0.42</td>
</tr>
</tbody>
</table>

\[ CEV = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Cu+Ni}{15} \]

\[ CET = C + \frac{Mn+Mo}{10} + \frac{Cr+Cu}{20} + \frac{Ni}{40} \]

Tolerances

<table>
<thead>
<tr>
<th>Thickness</th>
<th>According to EN 10029 Class A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length and width</td>
<td>According to EN 10029</td>
</tr>
<tr>
<td>Flatness</td>
<td>According to EN 10029 Class N</td>
</tr>
<tr>
<td>Surface properties</td>
<td>According to EN 10163 Class A</td>
</tr>
</tbody>
</table>
Welding

Steels specified in this document possess limited weldability properties since steel behavior before and after welding depends not only on the material, but its dimensions and shapes as well as operating conditions of goods.

General requirements to arc welding of steels specified herein shall be in line with EN 1011-2.

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