Q235B Included in 3 standards (China)

Chemical composition

<table>
<thead>
<tr>
<th>Element</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>&lt; 0.22</td>
</tr>
<tr>
<td>Si</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>Mn</td>
<td>&lt; 1.4</td>
</tr>
<tr>
<td>P</td>
<td>&lt; 0.045</td>
</tr>
<tr>
<td>S</td>
<td>&lt; 0.045</td>
</tr>
<tr>
<td>Cr</td>
<td>&lt; 0.3</td>
</tr>
<tr>
<td>Ni</td>
<td>&lt; 0.3</td>
</tr>
<tr>
<td>Cu</td>
<td>&lt; 0.3</td>
</tr>
<tr>
<td>N</td>
<td>&lt; 0.008</td>
</tr>
<tr>
<td>As</td>
<td>&lt; 0.08</td>
</tr>
<tr>
<td>Fe</td>
<td>Rest</td>
</tr>
</tbody>
</table>

It's allowed to exceed N content up to 0.014% in finished products. On exceeding N for every 0.001% max P content reduces by 0.005%.

F - unkilled steel
Z - killed steel
TZ - special killed steel
C > 0.20: by agreement

Properties

By GB/T 700-2006

*For section of thickness >100mm is allowed to reduce the lower limit of strength up to 20N/mm²*

Thickness: < 16 mm:
- Yield Strength: ≥ 235 MPa
- Tensile Strength: 370 - 500 MPa
- Elongation: ≥ 26%
- Impact energy KV 20°C: ≥ 27 J

Thickness: 16 - 40 mm:
- Yield Strength: ≥ 225 MPa
- Tensile Strength: 370 - 500 MPa
- Elongation: ≥ 26%
- Impact energy KV 20°C: ≥ 27 J

Thickness: 40 - 60 mm:
- Yield Strength: ≥ 215 MPa
- Tensile Strength: 370 - 500 MPa
- Elongation: ≥ 25%
- Impact energy KV 20°C: ≥ 27 J

Thickness: 60 - 100 mm:
- Yield Strength: ≥ 215 MPa
- Tensile Strength: 370 - 500 MPa
- Elongation: ≥ 24%
- Impact energy KV 20°C: ≥ 27 J

Thickness: 100 - 150 mm:
- Yield Strength: ≥ 195 MPa
- Tensile Strength: 370 - 500 MPa
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Elongation: > 22%
Impact energy KV 20°C: > 27 J
Thickness: 150 - 200 mm;
Yield Strength: > 185 MPa
Tensile Strength: 370 - 500 MPa
Elongation: > 21%
Impact energy KV 20°C: > 27 J

Cold-bend test
Longitudinal test pieces
  Thickness: < 60 mm:
  Return Bend: d=a
Transverse test pieces
  Thickness: < 60 mm:
  Return Bend: d=1.5a

Thickness: 60 - 100 mm:
Return Bend: d=2a

Thickness: 60 - 100 mm:
Return Bend: d=2.5a