BS S510
Technical Datasheet

Carbon Steel Sheet

Typical Applications
- Low stressed applications
- General aerospace use
- General engineering applications
- Machinery components
- Flanges, spacers, bushes

Key Features:
- Suitable for low strength components
- Easily welded
- Heat treatable
- Improved tensile strength once annealed
- Supplied softened

Product Description
An unalloyed heat treatable carbon steel available in sheet and strip. Suitable for low strength components. Requires protection from corrosion if it is to be exposed to the atmosphere. Easily welded. Annealed tensile strength (Rm) 430-540 N/mm². Usually supplied softened.

Corrosion Resistance
Protection required if exposed to the atmosphere

Weldability
Easily welded

Related Specifications
- EN3A
- 1.1151

Availability
Sheet, strip

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
<th>Ni</th>
<th>Cr</th>
<th>Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0.17</td>
<td>0.10</td>
<td>0.40</td>
<td></td>
<td></td>
<td>0.040</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>0.25</td>
<td>0.35</td>
<td>0.80</td>
<td>0.040</td>
<td>0.040</td>
<td>0.30</td>
<td>0.25</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Mechanical Properties (solution annealed)

<table>
<thead>
<tr>
<th>Size</th>
<th>Tensile Strength Rm N/mm²</th>
<th>Proof Stress Rp 0.2 N/mm²</th>
<th>Elongation in 5.65 √Cross Sectional Area (%)</th>
<th>Hardness HB</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1.6mm</td>
<td>430 - 540</td>
<td>255</td>
<td>18</td>
<td>121 - 163</td>
</tr>
<tr>
<td>&gt;1.6mm</td>
<td>430 - 540</td>
<td>255</td>
<td>20</td>
<td>121 - 163</td>
</tr>
</tbody>
</table>

Technical Assistance
Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

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