BS S511
Technical Datasheet

Carbon Steel Sheet

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

Product Description
An unalloyed heat treatable carbon steel available in sheet and strip. Suitable for low strength components requiring significant drawing operations during manufacture. Requires protection from corrosion if it is to be exposed to the atmosphere. Annealed tensile strength (Rm) 280-400 N/mm². Supplied in the softened condition.

Key Features:
- Suitable for low strength components
- Easily welded
- Heat treatable
- Improved tensile strength once annealed
- Used in applications where significant drawing is required during the manufacturing process

Related Specifications
- EN2A

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>0.1</td>
<td>0.2</td>
<td>0.5</td>
<td>0.04</td>
<td>0.04</td>
<td>0.2</td>
<td>0.15</td>
<td>0.05</td>
</tr>
<tr>
<td>Max</td>
<td>0.2</td>
<td>0.5</td>
<td>0.5</td>
<td>0.04</td>
<td>0.04</td>
<td>0.2</td>
<td>0.15</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Corrosion Resistance
Protection required if exposed to the atmosphere

Weldability
Easily welded

Availability
Sheet, strip

Mechanical Properties (softened)

<table>
<thead>
<tr>
<th>Size</th>
<th>Tensile Strength N/mm²</th>
<th>Yield Strength N/mm²</th>
<th>Elongation (%)</th>
<th>Hardness HB</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1.6mm</td>
<td>280 - 400</td>
<td>-</td>
<td>26</td>
<td>121 max</td>
</tr>
<tr>
<td>1.6mm - 2.4mm</td>
<td>280 - 400</td>
<td>-</td>
<td>28</td>
<td>121 max</td>
</tr>
<tr>
<td>&gt;2.4mm</td>
<td>280 - 400</td>
<td>-</td>
<td>30</td>
<td>121 max</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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sales@smithmetal.com

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