BS S514 / BS S515

Technical Datasheet

Carbon-Manganese Steel Sheet

Typical Applications
- Wishbones
- Space frame chassis
- Aerospace fabrication
- Bodywork
- Blanking panels

Product Description
Carbon-manganese steel available in sheet and strip. Both grades chemically identical, S514 supplied heat treated to produce tensile strength (Rm) 770-1000 N/mm². S515 supplied soft annealed to give tensile strength (Rm) 460-600 N/mm² before final heat treatment.

Key Features:
- S514 & S515 are chemically identical
- S514 supplied in the heat treated condition
- S515 supplied in the soft annealed condition
- Used when extra strength is required when compared with mild steel
- Easily welded

Related Specifications
- EN14A

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>Cr</th>
<th>Mo</th>
<th>Ni</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0.17</td>
<td>0.10</td>
<td>1.30</td>
<td>0.040</td>
<td>0.25</td>
<td>0.10</td>
<td>0.40</td>
<td>0.040</td>
</tr>
<tr>
<td>Max</td>
<td>0.25</td>
<td>0.35</td>
<td>1.70</td>
<td>0.040</td>
<td>0.25</td>
<td>0.10</td>
<td>0.40</td>
<td>0.040</td>
</tr>
</tbody>
</table>

Mechanical Properties (S514 supplied hardened & tempered, S515 supplied softened)

<table>
<thead>
<tr>
<th>Grade</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>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>S514</td>
<td>770-1000</td>
<td>630</td>
<td>10</td>
<td>229-302</td>
<td>&lt;1.6mm</td>
</tr>
<tr>
<td>S514</td>
<td>770-1000</td>
<td>630</td>
<td>12</td>
<td>229-302</td>
<td>1.6 - 2.4mm</td>
</tr>
<tr>
<td>S514</td>
<td>770-1000</td>
<td>630</td>
<td>14</td>
<td>229-302</td>
<td>&gt;2.4mm</td>
</tr>
<tr>
<td>S515</td>
<td>400-600</td>
<td>-</td>
<td>17</td>
<td>179 max</td>
<td>&lt;1.6mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>179 max</td>
<td>1.6 - 2.4mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>179 max</td>
<td>&gt;2.4mm</td>
</tr>
</tbody>
</table>

Weldability
Easily welded

Availability
Sheet, strip

Corrosion Resistance
Protection required if exposed to the atmosphere

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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