S513 Technical Datasheet

Carbon Spring Steel

Typical Applications
- Springs
- Suspension parts
- Aerospace components
- Lock picks
- Clamps

Key Features:
- Carbon spring steel
- Higher levels of carbon than S510 & S511
- Can be supplied as sheet or strip
- Can be hardened/tempered
- Corrosion protection required if exposed to atmosphere
- Tensile strength only reaches hardness

Product Description
S513 is a simple carbon spring steel containing higher levels of carbon than S510 and S511. Available in hardened/tempered sheet and strip but tensile strength only reaches hardness. The material requires protection from corrosion if it is to be exposed to the atmosphere.

Related Specifications
- 1.169

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0.17</td>
<td>0.30</td>
<td>1.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>0.23</td>
<td>0.60</td>
<td>1.60</td>
<td>0.035</td>
<td>0.035</td>
</tr>
</tbody>
</table>

Mechanical Properties (softened)

- Annealing Hardness (HBS) 235
- Cold Pull Hardness (HBS) 262
- Pre-heating temperature 788°C
- Tensile Strength (MPa) 540 - 690

Corrosion Resistance
Protection required if exposed to the atmosphere

Availability
Sheet, strip

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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London 020 72412430
Manchester 0161 7948650
Nottingham 0115 9254801
Norwich 01603 789878
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