BS S99
Technical Datasheet

Aerospace Steel Bar

Product Description
BS S99 aerospace steel bar is a nickel-chromium-molybdenum steel and is used for general aerospace use. The alloy benefits from high tensile strength and good notch toughness and is used as a structural alloy in applications where surface pressure is apparent. The material is usually supplied in annealed or bright annealed condition. Applications for the alloy are widespread and is used as a general alloy in the aerospace sector. Smiths supplies S99 in bar which can be processed to your original size requirements.

Typical Applications
• Connecting rods
• Sockets
• Spindles
• Hydraulic shafts
• Torsion bars
• Axles

Availability
Bar

Key Features
• Classed as a hardenability steel
• Higher tensile and yield strength
• Good creep resistance and toughness
• Supplied annealed and bright annealed
• Wide range of applications
• A general aerospace alloy

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>Cr</th>
<th>Mo</th>
<th>Ni</th>
<th>Al</th>
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</thead>
<tbody>
<tr>
<td>Min</td>
<td>0.36</td>
<td>0.10</td>
<td>0.45</td>
<td>0.50</td>
<td>0.50</td>
<td>0.45</td>
<td>2.3</td>
<td>0.015</td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>0.44</td>
<td>0.35</td>
<td>0.70</td>
<td>0.025</td>
<td>0.020</td>
<td>0.80</td>
<td>2.8</td>
<td>0.050</td>
<td></td>
</tr>
</tbody>
</table>

Mechanical Properties

| Tensile strength MPa: 1230 - 1420 1080 min | 0.2% Proof stress MPa: 1050 min | Elongation (%): 10 min | Hardness (Brinell): 363 - 415 HB |

Property ranges for final heat treated condition

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.

www.smithmetal.com  sales@smithmetal.com

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