EN1A

Technical Datasheet

**Engineering Steel**

**Applications**

- Nuts
- Bolts
- Studs
- Hydraulic fittings
- Precision machined components

**Product Description**

EN1A is a free cutting mild engineering steel which is suitable for high production use in both automatic lathes and CNC machines, and is available in both leaded (+Pb) and non-leaded. Used specifically in the production of repetition turned parts, EN1A is an ideal material for the production of fittings including nuts, bolts and studs, especially if intricate drilling and machining ops are required. The material is supplied in the untreated and cold finished condition. EN1A can also be supplied with added lead content for enhanced machinability.

**Weldability**

Moderate.

**Chemical Composition (weight %)**

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>S</th>
<th>Mn</th>
<th>S</th>
<th>P</th>
<th>Pb (where specified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>min.</td>
<td>0.15</td>
<td>0.40</td>
<td>1.30</td>
<td>0.35</td>
<td>0.07</td>
<td>0.35</td>
</tr>
<tr>
<td>max.</td>
<td>0.90</td>
<td>0.25</td>
<td>0.15</td>
<td>0.40</td>
<td>1.30</td>
<td>0.35</td>
</tr>
</tbody>
</table>

**Mechanical Properties (cold drawn condition)**

- **Max Stress**
  - 370-480 n/mm² Min
  - 240-400 n/mm² Min
  - 225-360 n/mm² Min

- **Yield Stress**
  - 200-280 n/mm² Min

- **0.2% Proof Stress**
  - 200-280 n/mm² Min

- **Elongation**
  - 6-10% Min

- **Dependent on ruling section**

**Related material specifications**

- BS970: 1955
- BS970/PD970: 1970 onwards
- European Werkstoff No.
  - 9SMn28, BS En 11SMn30
- US SAE (AISI)
  - 1213, 1215

**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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