EN8
Technical Datasheet

Applications
• Automotive parts
• Connecting rods
• Studs, bolts
• Axles, spindles
• General engineering components

Product Description
EN8 is an unalloyed medium carbon steel which is used in applications where better properties than mild steel are required but where the costs do not justify the purchase of a steel alloy. EN8 can be heat treated to provide a good surface hardness and moderate wear resistance by flame or induction hardening processes. From the automotive trade to wider general engineering applications, EN8 is a popular steel in industry.

Weldability
Heat treatment required if over 18mm to prevent cracking.

Key features:
• Unalloyed medium carbon steel
• Reasonable tensile strength
• Can be flame or induction hardened
• Readily machinable
• Moderate wear resistance if heat treated

Machinability
Good

Related material specifications
BS970: 1955 EN8
BS970/PD970: 080M40
European C40, C45, Ck40,Ck45, Cm40, Cm45
Werkstoff No. 1.0511, 1.1186, 1.1189
US SAE (AISI) 1039, 1040, 1042, 1043, 1045

Availability
Round bar, square bar, hexagon and plate

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
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<td>max.</td>
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<td>0.40</td>
<td>1.00</td>
<td>0.05</td>
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Mechanical Properties (in “R” condition)

Max Stress 700-850 n/mm² (up to 19mm LRS)
Yield Stress 465 n/mm² Min (up to 19mm LRS)
0.2% Proof Stress 450 n/mm² Min (12% if cold drawn)
Elongation 16% Min
Impact KCV 28 Joules Min (up to 19mm LRS)
Hardness 201-255 Brinell

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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