Manufactured in the UK to carefully controlled standards, our high-strength sections outperform existing steel grades through their higher tensile and yield strength.

Working in partnership to meet customer needs
We’re pleased to introduce high-strength grade S460M to our portfolio, in response to the industry’s need for higher strength structural steel products.

Typical applications for this steel grade include multi-storey and high-rise buildings, as well as a wide range of other commercial and industrial uses.

Benefits of using high-strength S460M in your building
- Cost reduction: less weight and lighter foundations reduce overall building costs
- Increased space: lighter sections will allow an increase in overall space within the building
- Lower embodied carbon: less carbon in direct proportion to the weight saving
- Reduced carbon emissions: less weight means less transport and less raw material consumption

Metallurgically engineered for high performance
Our S460 strength is achieved through microstructural engineering, so provides optimal results in thermal processes such as welding.

British manufacture – unrivalled offering
Our UK mills produce a comprehensive product range of bespoke sections with unrivalled availability and lead times.

We’re responsive and adaptable to customers’ needs and take pride in giving great customer service and offering quality products made to precise requirements.

Quality assurance
As the only UK manufacturer of structural sections, our steel products are CE and UKCA marked and tested to the highest standards, providing quality and reassurance for the construction market.

We are ISO 9001: 2015 accredited and all material is tested to the highest standards in our independently approved ISO 17025 test houses, assuring full traceability.

Our S460M structural sections are produced according to EN 10025-4. Rigorous impact tests are carried out at prescribed temperatures in accordance with this, ensuring full compliance with the Construction Products Regulation.

We’re also Environmental and Sustainability Standard BES 6001 certified, guaranteeing commitment to responsibly sourced materials.

Exceptional technical support
Our team of experienced metallurgists provides dedicated technical support to customers, including detailed metallurgical analysis to solve specific processing challenges, and the development of new and more advanced grades of steel for increasingly demanding applications.
S460M steel grade

The tables below indicate the standard mechanical properties and chemical composition for the S460M steel grade.

### Mechanical properties

1. **Tensile test**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Grade</th>
<th>Nominal thickness (mm)</th>
<th>Tensile strength Rm (MPa)</th>
<th>Minimum elongation - A</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 10025-4</td>
<td>S460M</td>
<td>≤16  ≤40  ≤63  ≤80  ≤100 ≤125</td>
<td>460  440  430  410  400  385</td>
<td>540-720  530-710  510-690  500-680  490-660  17</td>
</tr>
</tbody>
</table>

2. **Charpy-V notch impact test**

<table>
<thead>
<tr>
<th>Test temperature °C</th>
<th>20</th>
<th>0</th>
<th>-10</th>
<th>-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum absorbed energy J (longitudinal)</td>
<td>55</td>
<td>47</td>
<td>43</td>
<td>40</td>
</tr>
</tbody>
</table>

### Chemical composition

<table>
<thead>
<tr>
<th>Specification</th>
<th>Grade</th>
<th>Al</th>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Nb</th>
<th>V</th>
<th>Ti</th>
<th>Cr</th>
<th>Mo</th>
<th>Ni</th>
<th>Cu</th>
<th>N</th>
<th>CEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 10025-4</td>
<td>S460M</td>
<td>0.02</td>
<td>0.18</td>
<td>1.70</td>
<td>0.60</td>
<td>0.035</td>
<td>0.03</td>
<td>0.12</td>
<td>0.05</td>
<td>0.30</td>
<td>0.80</td>
<td>0.55</td>
<td>0.025</td>
<td>0.45</td>
<td>0.46</td>
<td>0.47</td>
</tr>
</tbody>
</table>

### High-strength structural sections size range

Our high-strength structural sections range covers a wide variety of profiles and sizes.

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Universal beams</th>
<th>Universal columns</th>
<th>Universal bearing piles</th>
<th>Asymmetric beams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranging from:</td>
<td>305 x 165 x 40</td>
<td>203 x 203 x 46</td>
<td>203 x 203 x 45</td>
<td>280 ASB</td>
</tr>
<tr>
<td>Up to and including</td>
<td>1016 x 305 x 487</td>
<td>356 x 406 x 634</td>
<td>356 x 368 x 174</td>
<td>300 ASB</td>
</tr>
</tbody>
</table>

Ability to offer up to 80mm flange thickness.
A minimum order quantity of 20MT per section size (including kg/m) applies for universal beams, columns and bearing piles.