Unidal®, Technical Datasheet

High Strength Precision Plate

Typical Applications
• Transport tables
• Jigs
• Reference plates

Product Description
Unidal, which is based on the 7xxx series aluminium alloys, is a high strength precision plate product which is milled on both sides and offers a unique combination of high mechanical strength with outstanding dimensional stability. The need for further operations such as reworking, rough-milling and finishing are reduced dramatically due to the materials very low internal stress which drastically reduces the possibility of deformation within the plates. Unidal is available in the T651 temper.

Weldability
Resistance welding is excellent. WIG/MIG welding is excellent.

Key features
• High mechanical strength
• Outstanding dimensional stability
• Low internal stress
• Cost savings through reduction in machining times
• Good machinability

Availability
Plate

Machinability
Good. To ensure a clean surface, Unidal should be machined at high cutting speeds using sintered carbide cutting tools.

Chemical Composition (weight %)

<table>
<thead>
<tr>
<th></th>
<th>Si</th>
<th>Fe</th>
<th>Cu</th>
<th>Mn</th>
<th>Mg</th>
<th>Cr</th>
<th>Zn</th>
<th>Ti+Zr</th>
</tr>
</thead>
<tbody>
<tr>
<td>min</td>
<td></td>
<td></td>
<td></td>
<td>0.15</td>
<td>1.50</td>
<td></td>
<td>3.50</td>
<td>0.10</td>
</tr>
<tr>
<td>max</td>
<td>0.35</td>
<td>0.45</td>
<td>0.20</td>
<td>0.50</td>
<td>2.50</td>
<td>0.20</td>
<td>4.50</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Mechanical Properties

<table>
<thead>
<tr>
<th>Thickness Range</th>
<th>Rp.0.2 [MPa]</th>
<th>Rm [MPa]</th>
<th>Elongation [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 - 30 mm</td>
<td>350</td>
<td>410</td>
<td>8</td>
</tr>
<tr>
<td>30 - 50 mm</td>
<td>340</td>
<td>400</td>
<td>8</td>
</tr>
<tr>
<td>50 - 80 mm</td>
<td>330</td>
<td>390</td>
<td>8</td>
</tr>
</tbody>
</table>

* minimum values T651 Temper

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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