Certal® Technical Datasheet

High Strength Heavy Plates

Typical Applications
- Industrial tools
- Heating plates
- Mechanical guides
- Tooling supports
- Injection blow-moulds
- Jigs

Key features
- Excellent machinability
- Excellent shape stability
- High tensile strength
- Ideal for industrial tooling
- Supplied in T651 temper

Product Description
Certal which is based on the 7xxx series alloys, is an aluminium tooling plate product which offers a combination of excellent machinability, shape stability and high strength. This makes this alloy an ideal choice in the production of industrial tooling including injection blow moulds which are used to create plastic bottles and containers. Certal can also be used in the production of heating plates, mechanical guides, tooling supports, jigs and fixtures. The alloy is available in the T651 temper.

Availability
- Plate

Machinability
Excellent

Weldability
Resistance welding is good. TIG/MIG welding is possible.

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>0.50</td>
<td>0.10</td>
<td>2.60</td>
<td>0.10</td>
<td>0.10</td>
<td>4.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>max</td>
<td>0.50</td>
<td>0.50</td>
<td>1.00</td>
<td>0.40</td>
<td>3.70</td>
<td>0.30</td>
<td>5.20</td>
<td>0.20</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>12.5 - 25 mm</td>
<td>460</td>
<td>540</td>
<td>8</td>
</tr>
<tr>
<td>25 - 50 mm</td>
<td>460</td>
<td>530</td>
<td>7</td>
</tr>
<tr>
<td>50 - 100 mm</td>
<td>420</td>
<td>500</td>
<td>6</td>
</tr>
<tr>
<td>100 - 140 mm</td>
<td>400</td>
<td>490</td>
<td>6</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

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