Thermodur®-73  The highly heat-resistant HPDC alloy for especially "hot" applications

Highly heat-resistant primary aluminum HPDC alloy with excellent mechanical properties.

Very good hardness and high strength in the as-cast state.
Stable mechanical properties even at temperatures above 200 °C.

<table>
<thead>
<tr>
<th>Ageing temperature</th>
<th>Ageing time</th>
<th>0.2% YTS (MPa)</th>
<th>UTS (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 °C</td>
<td>---</td>
<td>270 - 300</td>
<td>300 - 320</td>
</tr>
<tr>
<td>150 °C</td>
<td>500 h</td>
<td>280 - 310</td>
<td>330 - 355</td>
</tr>
<tr>
<td>225 °C</td>
<td>500 h</td>
<td>130 - 155</td>
<td>250 - 280</td>
</tr>
</tbody>
</table>

(Tested at ageing temperatures !)

- Elongation A: < 1 %
- Hardness: 130 – 150 HB
- Stabilization annealing T5: water quenching / 210-270 °C / 10-12 h, cooling at air

- Primary aluminum HPDC alloy with Sr refinement and low Fe content.
The cast structure possesses no primary silicon and is modified with strontium.
- The high alloy contents of Cu and Ni allow best heat resistance of the alloy.
- Very good ageing resistance under the influence of heat.
- Very high pressure toughness and hardness.

- Well suited for applications with very high ambient temperatures:
  Applicable for high thermal load work pieces with increased strength requirements in engine construction and general mechanical engineering.

- Excellent castable HPDC alloy.
  Solidification range, shrinkage behavior and expected die casting die endurance are comparable to that of AlSi9 and AlSi10Mg alloys.
- Very good pourable for thick- and thin-walled castings.
- Excellent machinable and very suitable for welding processes.

- Very good process ability in sand casting and gravity die casting.
  Linear shrinkage sand casting: 1.0 to 1.1%
  Linear shrinkage chill casting: 0.7 to 1.0%
DISCLAIMER:

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