Steel is heavy. Please execute the safety measures to prevent falling or collapse of cargo or sandwiched during transportation or warehousing. Please ensure the safety of workers use the jigs and various protective equipment and follow the applicable laws and ministerial ordinance, ordinances, guidelines, etc. when sawing, cutting, heat treatment, polishing or when using as mould, machine parts, or tooling.

http://www.hitachi-metals.co.jp/
http://www.hitachimetals.com
http://www.diehlsteel.com
http://www.hmk.hitachi-metals.com
http://www.hitachi-metals-ds.com.cn

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YSS Advanced Die Steel for Die Casting

DAC-MAGIC™

The range of applications of die cast products for weight saving and recycling is expanding while awareness of environmental protection is increasing. This fact requires bigger die cast products to be produced with higher quality in short cycle time. In order to meet such needs, DAC-MAGIC™ is one of the best materials for die casting which has not only good heat crack resistance but also good toughness.

Characteristics

DAC-MAGIC™: Advanced die steel, good heat crack resistance and good toughness.

DAC™10: Good erosion resistance.

DAC-MAGIC™ is a high performance die steel with Strength at elevated temperature and Toughness. It excels in both heat crack resistance and Stress corrosion cracking resistance.

Characteristics

- DAC-MAGIC™: Advanced die steel, good heat crack resistance and good toughness.
- DAC™10: Good erosion resistance.

Heat Crack Occurrence Mechanism and High Productivity

DAC-MAGIC™ has excellent resistance to stress corrosion cracking and suppresses cracking from cooling channel.

Relative Comparison

<table>
<thead>
<tr>
<th>Steel Grade</th>
<th>Performance</th>
<th>Resistance to stress corrosion cracking</th>
<th>Recommended use</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAC-MAGIC™</td>
<td>A</td>
<td>A</td>
<td>Large / Medium size, Squeeze die</td>
</tr>
<tr>
<td>DAC™10</td>
<td>A</td>
<td>C</td>
<td>Medium / Small size, Precision die</td>
</tr>
<tr>
<td>H13(2344)</td>
<td>C</td>
<td>B</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

Applications

- Die casting in general use, Squeeze die casting, Precision die casting.

DAC-MAGIC™ is approved NADCA #207-2011 Grade C.

Heat Crack Resistance

DAC-MAGIC™ contributes to longer die life due to better heat crack resistance, compared with H13(12344).

Resistance to Stress Corrosion Cracking

DAC-MAGIC™ has excellent resistance to stress corrosion cracking and suppresses cracking from cooling channel.

Application Examples

- Standard Heat Treatment
  - Quenching: 1010 ~ 1030°C rapid cooling
  - Tempering: 550 ~ 640°C air cooling

- Recommended hardness
  - Small/Medium size dies: 45-52HRC
  - Large size dies: 42-46HRC

- Improvement
  - More than 10 times
  - 2 times
  - More than 21 times