Lost Wax Investment Casting Design Advantages

- Lost wax casting provides greater design flexibility
- Lost wax investment casting provides greater detail
- Near net shape
- Undercut: Semi Internal Hollows
- Great alloy selection to enhance part performance
- Significant Surface treatment and finishing N8(125mi)
- Close tolerances
- Magnesium Lost wax casting results in ULTIMATE weight reduction
- Part dimensions up to 400x200x200mm
- Part weight from 1 gram to 35 kg

Lost Wax Investment Castings Cost Advantages

- Lost wax casting provides near net shape lowers material usage
- Reduce material costs
- Lost wax investment casting reduces expensive machining operations
- Eliminate expensive fabrications and weldments
- Low initial tooling costs

- 35% lighter than aluminium
- 75% lighter than steel
- Good Strength
- High damping capacity
- EFM/RFI shielding
- Good thermal conductivity
- Sustainability
- Stiffness
- Great Castability
- Good Machinability
- High Dentresistance
- Full recycle ability
Morgo Magnesium Ltd. is your innovative partner and can give advice about the use of magnesium in your applications. Morgo Magnesium is a professional company that specializes in magnesium extrusion profiles, sheet and lostwax castings.

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Magnesium

Morgo Magnesium is greatly experienced in machining magnesium like drilling, milling, punching, bending, welding, cutting and can also provide (ceramic) pre-treatment and coating.

<table>
<thead>
<tr>
<th>Mechanical Properties</th>
<th>Magnesium</th>
<th>Aluminium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultimate Tensile Strength (Mpa)</td>
<td>240</td>
<td>320</td>
</tr>
<tr>
<td>Yield Strength (Mpa)</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>Elongation % ub 2 in (51mm)</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>Hardness Brinell</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>Elastic Modulus (Gpa)</td>
<td>45</td>
<td>71</td>
</tr>
<tr>
<td>Charpy Impact (unnotched) (J)</td>
<td>6</td>
<td>4</td>
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</tbody>
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<tr>
<th>Physical Properties</th>
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<tbody>
<tr>
<td>Density (g/cm3)</td>
<td>1.81</td>
<td>2.74</td>
</tr>
<tr>
<td>Melting Range</td>
<td>815-1.108</td>
<td>1.004-1.103</td>
</tr>
<tr>
<td>Specific Heat (kJ/kg k)</td>
<td>1.02</td>
<td>0.963</td>
</tr>
<tr>
<td>Coefficient of Thermal Expansion (um/m-k)</td>
<td>26.0</td>
<td>22.0</td>
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<tr>
<td>Thermal Conductivity (W/m-k)</td>
<td>51</td>
<td>96</td>
</tr>
<tr>
<td>Electrical Conductivity MS/m</td>
<td>6.60</td>
<td>n/a</td>
</tr>
<tr>
<td>Corrosion Rate mg/cm2/day</td>
<td>0.05</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Source: ASM Handbook; n/a: not available
The properties of cast alloys depend strongly on the fabrication variables and composition of the alloy.