Leaders in Innovative Casting Technology

Experience the Graphicast Advantage!

- High Performance Zinc Alloy Material
- Low Cost Graphite Mold — Approximately $2500
- Economic Advantage With Volumes As Low As 200/Yr.
- Tool Up Faster Than Die Casting
- ISO Certified • Made In The USA

Learn How You Can Benefit from the Graphicast Advantage.

Call Today for Info or a Quote! (603) 532-4481

Try our Free Online Estimator

Scan this QR code or go online to:
Graphicast.com/estimator

Graphicast.com

PO Box 430, 36 Knight Street, Jaffrey, NH 03452 • sales@graphicast.com
Complex Part Geometries - Low Volume Part Production

Every part presents its manufacturing challenges. If looking to cast a part, take advantage of the process and incorporate as many cast features as possible. Below are things to consider when designing a casting for the graphite mold process at Graphicast.

Casting Design

- Less than 7 pounds or 32 cubic inches
- Should fit on a legal size sheet of paper, approximately 8.5" x 14"
- Minimum wall thickness .125" or 3mm
- Minimum draft angle 2°
- Our process relies on large gate areas to fill part cavity

Machining Capabilities

- True position of holes .002" or bilaterally of +/- .001".
- True position of tapped holes .010" or a bilateral tolerance of +/- .005"
- Surface to surface: under 6.00" +/- .0005", over 6.00" +/- .001"
- Size tolerance on hole +/- .0005" up to 2.00" diameter. over 2.00" +/- .00075"
- Flatness & parallelism - .0005"
- Machined surface finish min. 32 Ra
- Concentricity .0005"

Additional Value Added Processing

- In house dot peen part marking
- In house part tumbling
- In house pin, Pem, bushing, bearing and light assembly
- Out sourced paint, plate and protective finishes
  - Powder coat
  - Paint
  - Chromate
  - Cerakote
  - E coat

### ZA-12 Physical Properties vs. Other Casting Materials

<table>
<thead>
<tr>
<th>Properties</th>
<th>Zn/11Al/.75 Cu</th>
<th>Aluminum 356-T6</th>
<th>Bronze 85-5-5-5</th>
<th>Class 30 Iron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphicast Process</td>
<td>Sand Cast</td>
<td>Permanent Mold</td>
<td>Sand Cast</td>
<td></td>
</tr>
<tr>
<td>Tensile Strength (psi x 10^3)&lt;br&gt;Graphicast Process</td>
<td>50</td>
<td>33</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>Yield Strength (0.2% offset, psi x 10^3)</td>
<td>31</td>
<td>24</td>
<td>27</td>
<td>17</td>
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<tr>
<td>% Elongation (in 2 inches)</td>
<td>2-3</td>
<td>3.5</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Brinell Hardness (in 2 inches)</td>
<td>110-125</td>
<td>70</td>
<td>80</td>
<td>65</td>
</tr>
<tr>
<td>Density (lb/in^3)</td>
<td>.22</td>
<td>.10</td>
<td>.10</td>
<td>.32</td>
</tr>
<tr>
<td>Young’s Modulus (psi x 10^9)&lt;br&gt;Graphicast Process</td>
<td>12</td>
<td>10.5</td>
<td>10.5</td>
<td>13.5</td>
</tr>
<tr>
<td>Fatigue Strength (psi x 10^3 @ 5 x 10^8 cycles)</td>
<td>15</td>
<td>8.5</td>
<td>13</td>
<td>11</td>
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<tr>
<td>Thermal Expansion (μ inch/°F @ 68°-212°F)</td>
<td>13.4</td>
<td>11.9</td>
<td>11.9</td>
<td>10.1</td>
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<tr>
<td>Thermal Conductivity (BTU/hr/°F @ 68° F)</td>
<td>67</td>
<td>87</td>
<td>92</td>
<td>40</td>
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<tr>
<td>Electrical Conductivity (% Cu)</td>
<td>28</td>
<td>39</td>
<td>41</td>
<td>15</td>
</tr>
</tbody>
</table>

NOTE: Figures are correct, but are not warranted in any way by Graphicast, Inc. For structural applications above 200° F, or for detailed fatigue, impact, or creep strength properties, contact Graphicast.

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TAKING INNOVATIVE CASTING TECHNOLOGY TO YOUR BOTTOM LINE

ISO 9001

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