Medical

As a leader in the production of castings for medical and dental equipment, Harmony Castings delivers outstanding surface finishes with patterns guaranteed for the life of your project. From medical cart bases to dental chairs and operating room lighting, Harmony Castings’ project management team can bring your casting from concept to completion faster than anyone else.

Key Features and Benefits:
- 150 RMS Finish
- Unlimited Pattern Life
- Quick Pattern Revisions
- Speed to Market
- Excellent Casting Integrity
- Zero Degree Draft
- Tight Tolerances
- Thin Walls

Visit our website: harmonycastings.com

Send files and prints to: quotes@harmonycastings.com

MISSION STATEMENT

Harmony Castings exceeds customer expectations by delivering quality products and building long-term relationships based on trust and confidence in our performance. Our dealings with our customers, vendors, employees and our community are rooted in integrity.
### V-PROCESS Sequence

1. The pattern (with vent holes) is placed on a hollow carrier plate.
2. A heater softens the .003" to .008" plastic film. Plastic has good elasticity and a high deformation ratio.
3. Softened film drapes over the pattern with 200 to 400 mm Hg vacuum acting through the pattern vents to draw it tightly around the pattern.
4. The flask is placed on the film-coated pattern. Flask walls are also a vacuum chamber with the outlet shown at right.
5. The flask is filled with dry, unbonded sand. A slight vibration compacts sand to maximum bulk density.
6. A sprue cup is formed and the mold surface leveled. The back of the mold is covered with unheated plastic film.
7. Vacuum is applied to the flask. Atmospheric pressure then hardens the sand. The vacuum is released, pressurized air is introduced into the carrier and the mold is stripped.
8. The cope and drag assembly form a plastic-lined cavity. During pouring, molds are kept under vacuum.
9. After cooling, the vacuum is released and free-flowing sand drops away leaving a clean casting, with no sand lumps. The sand is cooled for re-use.

### Aluminum Castings: Process Comparisons

<table>
<thead>
<tr>
<th>Process</th>
<th>Typical Size Range</th>
<th>Tolerances</th>
<th>Surface Finish</th>
<th>Min. Draft Required</th>
<th>Min. Section Thickness</th>
<th>Nominal Lead Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-PROCESS Castings</td>
<td>Up to 150 lbs</td>
<td>± .010&quot; for the first 1&quot;, then add ± .002&quot; per inch. Add a maximum .020&quot; across parting line</td>
<td>125-150 RMS</td>
<td>None</td>
<td>.125&quot;</td>
<td>Samples: 2 to 6 weeks Production: 2 to 6 weeks after approval</td>
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<tr>
<td>Sand Castings</td>
<td>Ounces to tons</td>
<td>± 1/32&quot; to 6&quot;, then add ± .003&quot; per inch. Add ± .020&quot; to .090&quot; across parting line</td>
<td>200-550 RMS</td>
<td>1 to 5 degrees</td>
<td>.25&quot;</td>
<td>Samples: 2 to 6 weeks Production: 2 to 6 weeks after approval</td>
</tr>
<tr>
<td>Investment (Lost Wax)</td>
<td>Ounces to 20lbs</td>
<td>± .003&quot; to 1/4&quot; ± .004&quot; to 1/2&quot; ± .005&quot; to 3&quot;, then add ± .003&quot; per inch</td>
<td>63-125 RMS</td>
<td>None</td>
<td>.060&quot;</td>
<td>Samples: 8 to 10 weeks Production: 5 to 12 weeks after approval</td>
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<tr>
<td>Permanent Mold</td>
<td>Ounces to 100lbs</td>
<td>± .015&quot; to 1&quot;, then add ± .002&quot; per inch. Add ± .010&quot; to .030&quot; across parting line</td>
<td>150-300 RMS</td>
<td>2 to 5 degrees</td>
<td>.1875&quot;</td>
<td>Samples: 8 to 20 weeks Production: 10 to 12 weeks after approval</td>
</tr>
<tr>
<td>Plaster Mold</td>
<td>Ounces to 50lbs</td>
<td>± .005&quot; to 2&quot;, then add ± .002&quot; per inch. Add ± .010&quot; across parting line</td>
<td>63-125 RMS</td>
<td>1/2 to 2 degrees</td>
<td>.070&quot;</td>
<td>Samples: 2 to 10 weeks Production: 4 to 8 weeks after approval</td>
</tr>
<tr>
<td>Die Casting</td>
<td>Ounces to 15lbs</td>
<td>± .002&quot; per inch. Add ± .015&quot; across parting line</td>
<td>32-63 RMS</td>
<td>1 to 3 degrees</td>
<td>.030&quot; to .060&quot;</td>
<td>Samples: 12 to 22 weeks Production: 8 to 14 weeks after approval</td>
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</tbody>
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