**Glass Firing & Annealing Chart**

(Updated April 18, 2019)

**Diagram:**
- **MOLD-CURING & FIRING**
  - 1. **100°**
  - 2. **1000°**
  - 3. **1250°**
  - 4. **1500°**
  - 5. **Anti-Shrink & Annealing**
  - 6. **1500°**
  - 7. **910°**
  - 8. **910°**
  - 9. **800°**
  - 10. **100°**

**Table:**

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<tbody>
<tr>
<td>1&quot; - 1.5&quot;</td>
<td>100°/hr</td>
<td>2</td>
<td>2 hrs.</td>
<td>AFAP (1 hr.)</td>
<td>*** AFAP</td>
<td>2 hrs.</td>
<td>6-8 hrs.</td>
<td>12 hrs.</td>
<td>15°/hr</td>
<td>40-50°/hr</td>
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<tr>
<td>2&quot; - 2.5&quot;</td>
<td>75°/hr</td>
<td>2</td>
<td>2 hrs.</td>
<td>AFAP (1 hr.)</td>
<td>*** AFAP</td>
<td>3-5 hrs.</td>
<td>12-16 hrs</td>
<td>10 hrs.</td>
<td>15°/hr</td>
<td>24-30°/hr</td>
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<td>3&quot; - 4&quot;</td>
<td>50°/hr</td>
<td>4</td>
<td>3 hrs.</td>
<td>AFAP (1 hr.)</td>
<td>*** AFAP</td>
<td>6-8 hrs.</td>
<td>18-24 hrs</td>
<td>10 hrs.</td>
<td>15°/hr</td>
<td>10-14°/hr</td>
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<tr>
<td>4&quot; - 6&quot;</td>
<td>37.5°/hr</td>
<td>4</td>
<td>3 hrs.</td>
<td>AFAP (1 hr.)</td>
<td>*** AFAP</td>
<td>8-10 hrs.</td>
<td>24-36 hrs</td>
<td>6 hrs.</td>
<td>15°/hr</td>
<td>6-8°/hr</td>
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<td>5&quot; - 8&quot;</td>
<td>25°/hr</td>
<td>4</td>
<td>4 hrs.</td>
<td>AFAP (1 hr.)</td>
<td>*** AFAP</td>
<td>10-12 hrs.</td>
<td>36-48 hrs</td>
<td>4 hrs.</td>
<td>15°/hr</td>
<td>3-4°/hr</td>
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* As Fast As Possible (AFAP)
** Not needed on some open-face molds.
*** Until desired affect is achieved (finish casting).

**HOW TO USE THIS CHART:**
The numbers on the graph (1-10) correspond to the numbered steps. (e.g. Step 1 is Mold Curing and for a thickness of 1-1.5 inches of glass we program the kiln to rise at 100°F/hr.)

The graph is divided into two (2) sections because we typically program a casting in two (2) stages: the Mold Curing & Firing stage and the Anti-Shrink & Annealing stage. So, when using Watlow controllers with the EZ buttons enabled we program steps 1-5 into EZ-1 and 6-10 into EZ-2. The reasoning behind this is we typically don’t know how long a given mold will take to completely fill with glass—not unless we’ve previously casted it in the same kiln before. So, we program in END/HOLD as Step 5 and watch the kiln to see when it finishes casting. Then we press the EZ-2 button to forward to the next program.

**Finally, we ALWAYS program 100°F as our final temp. in Step 10 and then make step 11 (not pictured on graph) END/HOLD.**
That will reset the Automatic Setpoint to 100°, preparing the kiln for the next firing. If we program END/OFF instead, the kiln will remember that the last Auto Setpoint was Firing Temp (1500°) and rocket up to that temp before returning to begin Step 1. **DISASTER!** Remember, the Casting Kilns are programmed to ALWAYS hit the Setpoint before moving on to the next step. So, it will try to hit the Auto Setpoint before starting the program. When we program in END/HOLD, that creates an Auto Setpoint.