



Creating Ultra-Thin Castings

We want our customers to have a great experience and wonderful outcomes with our molds. Let us pass along these hints and advice.

delphi

Many of our new 2007 designs look best when cast as thin as possible. These new designs included:

- Honey Bees
- Blossoms
- Lily Pad and Frog
- Maple Leaves
- Oak Leaves and Acorns
- Tropical Leaves

Just how do you go about getting a thin, light-weight casting?

First some background: There is a force called "surface tension" that starts acting on glass frit as it melts, fuses together, and becomes a liquid. Surface tension causes any liquid on a smooth surface to "bead up." A good everyday example is the way rain drops bead up on a car's hood. If glass is hot

enough or given enough time, it will bead up, too. The hot, liquid glass will pull away from the mold's edges. The edge detail and any sharp points will be rounded off. In the worse case, you might be left with thick, "clunky" results.

The secret to thin castings with sharp edge detail is to:

- ✓ Use fine frit.
- ✓ Fill the mold with the recommended fill weight.
- ✓ Heat the frit only until it just fuses.
- ✓ Cool the kiln before surface tension can cause the glass to pull into itself – bead up – and pull away from the mold's edges.

On every Colour de Verre mold's packaging is a fill weight, the optimal weight of frit for a great casting. If you have misplaced this information, you can always find it on our website. The fill weight is listed in the detail page for every mold.

Every kiln is different and firing schedules can be affected by glass thickness, number of pieces in the firing, number of kiln shelves, whether the kiln has top and/or side elements, and even glass color. However, here are two firing schedules – one for COE 90 and one for COE 96 – that can serve as starting points for thin, fully-fused, finely-detailed castings. Many of these molds have built-in slumpers. Slumping adds "life" to the final piece.

COE 90 Firing Schedule

- Seg 1 300°F/hour to 1375°F, Hold 10 minutes
- Seg 2 AFAP (As Fast As Possible) to 960°F no venting
- Seg 3 60°F/hour to 700°F
- Seg 4 Off, cool kiln, no venting

COE 96 Firing Schedule

- Seg 1 300°F/hour to 1350°F, Hold 10 minutes
- Seg 2 AFAP (As Fast As Possible) to 960°F no venting
- Seg 3 60°F/hour to 700°F
- Seg 4 Off, cool kiln, no venting

Slumping Schedule

- Seg 1 300°F/hour to 1200°F, Hold 5 minutes
- Seg 2 AFAP (As Fast As Possible) to 960°F no venting
- Seg 3 60°F/hour to 700°F
- Seg 4 Off, cool kiln, no venting



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Technical sheet courtesy of Colour de Verre™