Tips for Thin Castings

As people become more experienced with our molds, they start wanting thinner and more delicate castings. Let us pass along these hints and advice to achieve that goal.

Many of our newer designs look best when cast very thin. These designs included:

- All our leaves, e.g. Oak Leaves and Acorns, Tropical Leaves, Assorted Small Leaves, and Leaves (3)
- All our flowers, e.g. Dogwood, Rose, Blossoms, Small Mixed Blossoms 1 and 2, and Lotus
- Honey Bees, Small Dragonflies, Small Butterflies
- Lily Pad and Frog

A complete list of designs to which this applies is in "Fill Weights at a Glance."

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

First some background: There is a force called "surface tension." Surface tension causes any liquid to "bead up." (An everyday example is the way rain drops bead up on a car's hood.) If glass is hot enough, it will bead up, pull away from the mold's edges, and thicken.

Here are the secrets to thin castings with fine details:

√ Use the Thin Fire fill weighs that can be found in "Fill Weights at a Glance." This lower fill weight is usually about two-thirds to half the fill weight shown on the packaging. One can add more or less frit to customize the casting size.

√ Use fine frit. It requires less heat work to conform the smaller particles to the mold's surface.

√ Use lower temperatures. These accompanying schedules are designed to barely fuse the frit particles together, but before the glass becomes fluid. At the low end of the temperature range, the piece will have a matte, "sugar fire" finish. At the high end; a glass-like finish.

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 to add "life" to the final piece. A slumping schedule is also included.

COE 96 Firing Schedule

Seg 1	300˚F/hour to 1350-1375˚F, Hold 10 minutes
Seg 2	AFAP (As Fast As Possible) to 960˚F no venting. Hold 30 minutes
Seg 3	Off, cool kiln, no venting

COE 90 Firing Schedule

Seg 1	300˚F/hour to 1375-1400˚F, Hold 10 minutes
Seg 2	AFAP (As Fast As Possible) to 960˚F no venting. Hold 30 minutes
Seg 3	Off, cool kiln, no venting

Slumping Schedule

Seg 1	300˚F/hour to 1225-1250˚F, Hold 5 minutes
Seg 2	AFAP (As Fast As Possible) to 960˚F no venting. Hold 30 minutes
Seg 3	Off, cool kiln, no venting