

Mold Tips: Deep Form Three-Step Process

Notes generated in the Bullseye Research & Education studios, firing in Paragon GL24 kilns.



Note: The following tips do not guarantee a uniform result. Because of the steep-sided nature of these molds, pieces may slump unevenly.

MOLDS NEEDED FOR THIS PROCESS

- 16.5" Ball Surface / Deep Form Step One (8738)
- Deep Form Step Two (8990)
- Deep Form Step Three (8991)

OTHER HELPFUL ITEMS

- 10.8" Drop Out Ring mold (8631) or 5.8" Ball Surface mold (8746)
- A level and a flat straight edge that fits in the kiln to set across the top of the mold (we used a strip of sheet glass!)
- Suction Lifter, Large (7195) or Small (7196)
- Zetex Heat Protective Gloves (8265)
- Protective face shield (available at most hardware stores)
- Bullseye Shelf Primer (8220)

OVERVIEW

This process involves slumping a 15.5"-diameter circle over the course of three firings. (Note: always measure your mold before cutting your glass.) Each consecutive firing shapes the form, ultimately resulting in a relatively deep, tall, steep-sided vessel. For our testing, we worked with an assortment of uniform-color 6 mm pieces (two 3 mm layers of a single color or a single 3 mm color with a 3 mm Clear cap). Pieces were kept in the same orientation as the initial full fuse (i.e., not flipped) with the shelf side in contact with the mold.

16.5" BALL SURFACE / DEEP FORM STEP ONE MOLD (8738)

This is a relatively conventional slumping form. Elevate the mold from the floor of the kiln using 2" posts. As with other gently sloped molds, a standard five-coat application of Bullseye Shelf Primer will serve for many slump firings.

SUGGESTED FIRING SCHEDULE

	RATE (DEGREES / HOUR)	TEMPERATURE	HOLD
1	250°F (139°C)	1200°F (649°C)	:05
2	AFAP*	900°F (482°C)	1:00
3	100°F (56°C)	700°F (371°C)	:00
4	AFAP	70°F (21°C)	:00

Firing schedules are intended as a starting point. Results may vary.

DEEP FORM STEP TWO (8990)

A smooth, well-primed surface for this form contributes to a uniform slump. Apply five coats of Bullseye Shelf Primer and kiln dry as directed. If your mold has already been primed and slumped into, gently remove the remaining primer with a dry scrub pad before re-priming.

This mold does not have a flat base. To create a stable base, elevate either Drop Out Ring or 5.8" Ball Surface mold on 2" posts and set Deep Form Step Two on top. Once the base is ready, place the slumped bowl from Step 1 into Deep Form Step Two, making an effort to center and level the set-up.

SUGGESTED FIRING SCHEDULE

	RATE (DEGREES / HOUR)	TEMPERATURE	HOLD
1	200°F (111°C)	1200°F (649°C)	:45**
2	AFAP*	900°F (482°C)	1:30
3	100°F (56°C)	700°F (371°C)	:00
4	AFAP	70°F (21°C)	:00

Firing schedules are intended as a starting point. Results may vary.

* As Fast As Possible. Allow the kiln to cool at its natural rate with the door closed.

** Visually confirm slump progress.

Mold Tips: Deep Form Three-Step Process (continued)

ACTIVE PARTICIPATION

Artist Karl Harron has developed an approach that helps to control these slumped forms. When slumping Deep Forms Step Two and Three,

More information on Karl Harron is available at theglasstudioireland.com

observe the slump in action. When unevenness is detected, manipulate the mold to counteract it. Wearing heat-protective gear—gloves, face shield, etc.—reach into the kiln and tilt the mold so the highest point of the glass rim is even higher, encouraging it to slump further and even out the form. Keep the mold from touching exposed elements and thermocouples at all times.

It may be necessary to manipulate the piece many times during the course of the firing. These small adjustments over the course of the slumping process (as often as every few minutes, starting as early as 1100°F) can help achieve an even form. Note that if you are going to manipulate the pieces in this manner you will need to program a much longer process hold time to account for heat loss.

Note: Never insert other objects (metal tools, etc.) into the kiln to perform these adjustments.

DEEP FORM STEP THREE (8991)

As noted in Step Two, we recommend a fresh application of Bullseye Shelf Primer with each slump firing when using these deep vessel forms.

If you plan to adjust the mold during the firing, support it with either a Drop Out Ring or Ball Surface mold as described in Step 2. Otherwise, elevate on 2" posts.

SUGGESTED FIRING SCHEDULE

	RATE (DEGREES / HOUR)	TEMPERATURE	HOLD
1	100°F (56°C)	1200°F (649°C)	:20**
2	AFAP*	900°F (482°C)	1:30
3	75°F (42°C)	700°F (371°C)	:00
4	AFAP	70°F (21°C)	:00

Firing schedules are intended as a starting point. Results may vary.

OBSERVATIONS

- In GL24 kilns, it is not possible to see the bottom of the vessel, so reading the top rim becomes significant.
- The piece will adequately fit in Stage Three without having reached the bottom of Stage Two.
- Through the slump firings, the glass against the mold can change texture and develop a dry surface. As the walls of the vessel become more vertically oriented, they thicken slightly.

* As Fast As Possible. Allow the kiln to cool at its natural rate with the door closed.

** Visually confirm slump progress.