

Using the Three Step Molds



Kiln model GM22CS

Artist Credit: Roy Kapp

This is a challenging project and is not recommended for first time fusers

Molds Needed for This Process

- 17" Ball Surface / Deep Form Step One (128738)
- Deep Form Step Two (128990)
- Deep Form Step Three (128991)

Other Helpful Items

- 10.75" Drop Out Ring mold (128631) or 6" Ball Surface mold (*128746) for stabilizing the molds in the kiln
- 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)
- Heat Protective Gloves (17703)
- Protective face shield (available at most hardware stores)

Overview

This process involves slumping a 16"-diameter circle over the course of three firings. 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 colors and frits. Pieces were kept in the same orientation as the initial full fuse with the shelf side in contact with the mold.

17" Ball Surface / Deep Form Step One Mold (128738)

This is a relatively conventional slumping form. Elevate the mold from the floor of the kiln using kiln posts. We prepared our mold with kiln wash.

Suggested Firing Schedule			
	Rate (Degrees / Hour)	Temperature	Hold
1	250° F (139°C)	1200° F (649°C)	:05
2	AFAP	900° (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 (128990)

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 6" Ball Surface mold on kiln 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° (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.

Deep Form Three-Step Process (continued)

Active Participation

Artist Karl Harron has developed an approach that helps to control these slumped forms.

More information on Karl Harron is available at theglasstudioireland.com

When slumping Deep Forms Step Two and Three, 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 molds 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 time.

It will be necessary to manipulate the piece many times during the course of 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 (128991)

This is a relatively conventional slumping form. Just like the previous steps, elevate the mold from the floor of the kiln using kiln posts. We prepared our mold using kiln wash.

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 kiln posts.

Suggested Firing Schedule			
	Rate (Degrees / Hour)	Temperature	Hold
1	100° F (56°C)	1200° F (649°C)	:20
2	AFAP	900° (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

- The piece will adequately fit in Stage Three without having reached the bottom of Stage Two.
- Through the slump fitting, the glass against the mold can change texture and develop a dry surface. As the walls of the vessel becomes more vertically oriented, they thicken slightly.
- In order to achieve the pictured effect you will need to cold work the lip of the bowl.