

Tutorial: Slumping in 3 Steps with Deep Vessel moulds



To slump a piece of glass to form a deep tall vessel shape is a complex process which requires good skills. The objective is to coax the glass slab to stretch and slump evenly into a deep narrow mould without collapsing. A process used by the Northern Irish artist Karl Harron is to proceed through a number of separate firings, from the flat slab to a shallow bowl, to a deeper bowl and finally to the deep vessel with a good base to stand upright.

Process

Fuse a round piece of glass, diameter approx. 40 cm, even thickness, total 6-9 mm. There are no design restrictions, but bear in mind that mixing glasses of different viscosities may cause the piece to slump unevenly. Fuse the glass as usual make sure that the piece has clean smooth edges.

The piece is now ready for slumping. Prepare the moulds with kiln wash, see general instructions.

- Step I 958.138 - Spherical Mould resulting in a shallow bowl diam. approx. 38cm, depth 6-7 cm
 Step II 958.290 - Bowl Step II resulting in a deep bowl, diam. approx. 34 cm, depth 15 cm, no base
 Step III 958.291 - Bowl Step III resulting in a vessel shape, diam. approx. 28cm, depth 20 cm, base diam. 9-10cm

Karl Harron's Slumping Technique - www.theglasstudioireland.com

Step I

Segm.	Heating / Cooling		Temp °C	Hold min.
	Rate °C/h	Time		
I	200	160	538	25
II	330	25	650	40
III	SKIP	0	482	50
IV	60	150	370	--
V	100	200	30	--

Step III

Segm.	Heating / Cooling		Temp °C	Hold min.
	Rate °C/h	Time		
I	45	720	538	25
II	SKIP	SKIP	680	210 *
III	SKIP	0	482	180
IV	25	330	370	--
V	SKIP	SKIP	30	--

*visual check necessary. As soon as the slumping process is completed, just advance to the next ramp.

Note:

Firing cycles are calculated for Bullseye glass - average viscosity and even thickness of 6 - 9mm. Slumped in top firing kiln, e.g. Paragon GL22, GL24, BVD Flat bed kilns etc.

Step II

Segm.	Heating / Cooling		Temp °C	Hold min.
	Rate °C/h	Time		
I	45	720	538	25
II	SKIP	SKIP	680	120 *
III	SKIP	0	482	180
IV	25	330	370	--
V	SKIP	SKIP	30	--

*visual check necessary. As soon as the slumping process is completed, just advance to the next ramp.

The shallow slumped piece will be placed into this deeper mould allowing the glass to stretch but not 'fall'. The result of this step is a deep piece of glass with no base. This is a tricky process, very even heat transmission is necessary.

The ideal slumping temperature may vary depending on the viscosity of the glass and the type of kiln you use. To position the mould, use a drop out ring 958.156 placed on kiln posts. View the slumping process (using safety goggles).

Repositioning, turning or tilting of the mould during the slumping process may be necessary (using heat resistant gloves with long sleeves).