

Making a Open Segmented Bowl
With
Significantly Different Layer Thicknesses



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I was inspired to try this style of open segment vessels by a posting by Lou Landry in 2009, left photo. Recently, Tom Lohman posted his Red and White vessel, right photo, with a similar style.



The different layer thicknesses and vertical alignment give an interesting visual effect. My first vessel incorporating this style is shown below.



As with any new project, there were challenges and hence, lessons learned. The second bowl build, incorporating lessons learned, is the subject of this article.

All my projects are designed using VectorWorks for the drawing and an Excel spreadsheet for the parts listing.

The bowl characteristics are: 5 ¼" diameter, 4" height, twelve segments per layer, open areas are 8°, thin layers are ⅛", and thick layers are little less than ⅜". The thick layers, top, and bottom are Wenge and the thin layers are Maple.

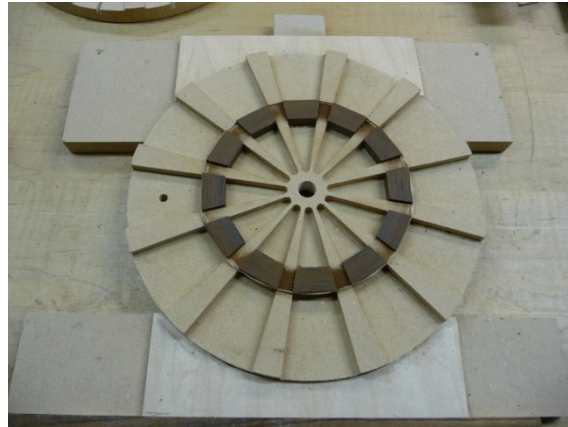
Segments are cut on the table saw using a homemade sled with an adjustable fence. A fixed fence sled would be better, but I make such a variety of pieces with widely differing number of segments and open degrees that having a dedicated sled for each combination is not practical for my small shop with limited storage space. A router digital depth gauge was adapted for the length measurements.



The bowl's segments and two plates, assembly aids, are shown on my workbench. These plates are similar to the SegEasey plate available commercially. I'm fortunate to have access to a CNC router, so I make plates tailored to the project.



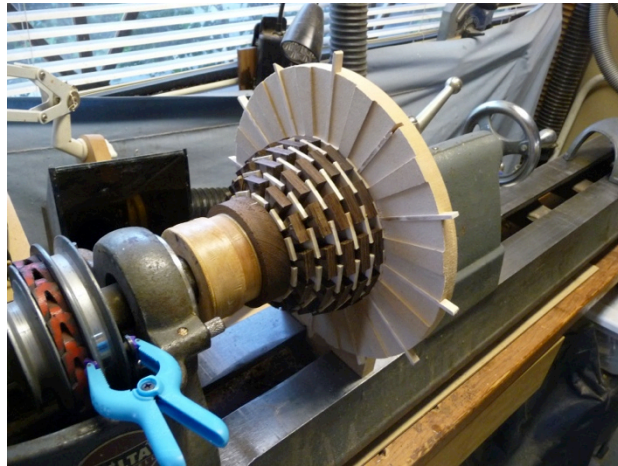
For this project, two plates were made, one for each of the layer thicknesses ($\frac{1}{8}$ " and $\frac{3}{8}$ "). The plate's recesses have to be less than the thickness of layer and the segments has to be proud of the plate enough to allow space for a rubber band. The rubber band holds the segments in place for sanding and assembly. For the $\frac{3}{8}$ " layer the recesses were $\frac{1}{4}$ " deep. Before assembly, each layer is sanded lightly with 80 grit paper glued on Corian.



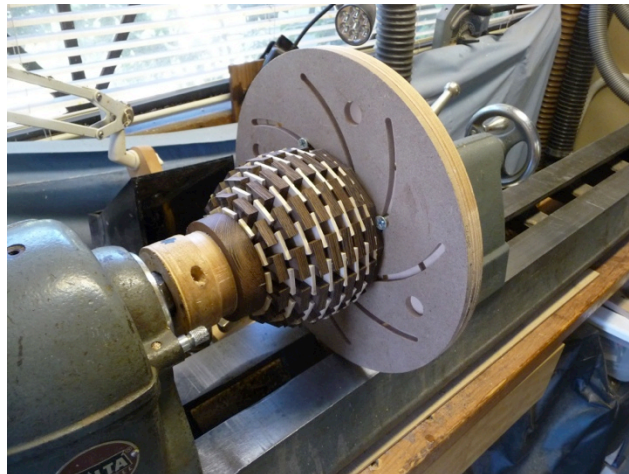
Making a plate for the $\frac{1}{8}$ " layer was a challenge. The layer is too thin for the plate to have a recess and still have enough segment exposure for a rubber band. The plate has $\frac{1}{16}$ " recesses with a $\frac{1}{8}$ " slot down the middle. In this slot, a $\frac{1}{8}$ " stick is wedged against the segment to hold it in place.



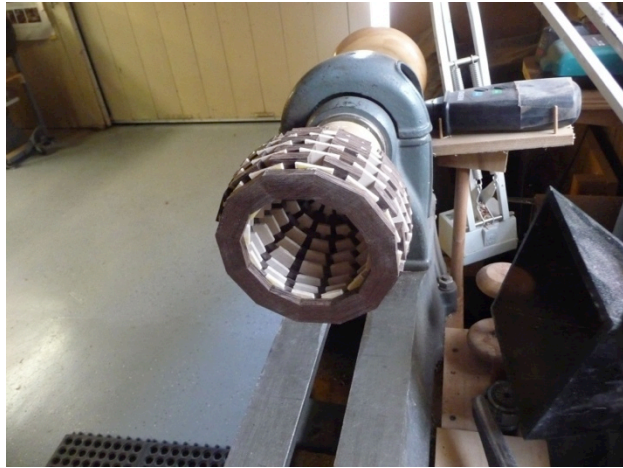
Layers are assembled on the lathe. The vessel is locked into a consistent orientation using the lathe's index holes. Vessel's layer is lightly sanded with the Corian/sandpaper. The new layer plate is mounted on the tailstock. Each segment plate has a location hole. There is a small plate that mounts between the lathe's ways and behind the segment plate. This plate has two holes, one aligns the segment plate in the vertical position and the other aligns the segment plate with a 15° rotation. This arrangement provides consistent layer orientation, a problem with the first bowl. My lathe is very old and the indexing pin doesn't always stay in the hub hole, hence the spring clip.



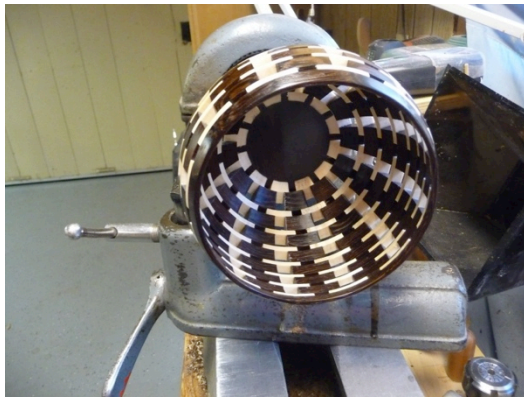
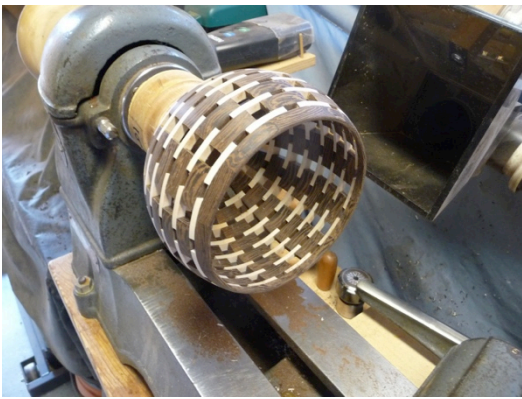
The top edge is a normal 12-segment ring.



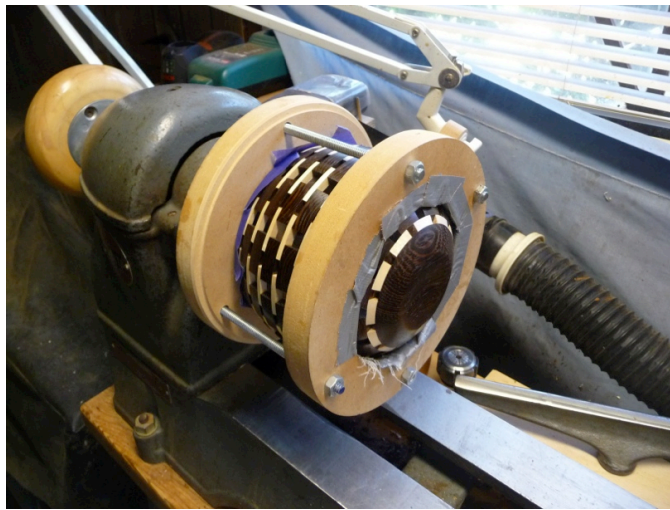
The completed stack is ready for turning.



Turned and finished with spray lacquer.



Donut plate used for finishing the bottom.



Finished bowl.



Thank You for taking the time to look at the article, comments are welcomed.