

The Boxes

Boxes were assembled using lap joints Procedure is listed below

- 1) The main box was created by planing a hardwood into 0.385" thickness.
- 2) Stock was ripped to 2"
- 3) Multiple cut files were created on Shaper Studio for each row and column of the periodic table with a 0.010" offset enlarging the cut path and allowing enough space to join pieces together
- 4) Like pieces of stock were clamped together and placed on a shaper grid and cut using Shaper Studio and the Shaper AutoPass upgrade to get to a final depth of 1" for each
- 5) Any pieces that needed it were fine tuned with a chisel
- 6) Pieces were try fit together before clamping, gluing and using a 23 gauge pin nailer with 1.5" pins to join them along the sides. I opted not to secure from the top down with pin nails as they could get in the way of the block plane when I needed to flush up the top surface
- 7) Uneven surfaces were touched up with a hand plane
- 8) A chamfer bit was used to create a 3/32" ease of the edges in each of the 118" boxes to create shadow lines and to make this safer to touch.

Creating the structure the tiles would rest on was necessary and accomplished in the following way

- 9) 10 x 8' strips of walnut were milled to 1/16" x 1 7/8" wide. This would allow the tiles to sit on top of edge grain instead of end grain. It would also make flushing any rough pieces on the bottom with a block plane much easier.
- 10) Using setup blocks and calipers, the precise distance was measured inside of the boxes and the pieces were ripped to length at the bandsaw.
- 11) Pieces were dapped with a combination of CA glue, activator and Titebond 2 before holding them tight to the inside of the box

NOTE While many methods could be used to create the boxes and many techniques to create lap joints, I opted for the Shaper Studio because of its overall precision and speed.