

Butcher Block Countertop

A friend asked if I would be willing and able to construct a new countertop for an existing island in his kitchen. He had priced countertops of granite and many other materials, but his wife was partial to a “butcher block” style. The existing island measured 48” x 48” with drawers on one side and cabinet doors on the other. In this new service, the island would double as a bar for serving snacks and drinks, so an overhang to accommodate barstools on three sides was needed. The finished size would then be at least 60” x 72”.

So, I began to research materials, sizes, and cost for the countertop. First, the material chosen was maple for its fine grain, hardness, and color. Second, the normal thickness for this type of top is 1 ½” minimum which meant that I would have to begin with 8/4 material thickness. Finally, since the overall length was at least 72”, I would have to purchase stock in 8’ or 10’ lengths. The maple was available in 10’ lengths with various widths from Zachary Hardwoods; here is the material in my trailer.



Next, I had to make a plan for construction (called in some experts – Terry Landry). Here are the general steps (details later):

- Cut rough boards to maximum length
- Run through thickness planer to remove any cup in the boards – (top and bottom)
- Mark top and bottom sides of rough boards so alternating orientation can be obtained later
- Rip on table saw to desired thickness
- Assemble & glue up into sections that will run through planer later
- Run sections through planer to obtain rough dimensions for all sections
- Layout and clamp all sections together and square off ends to final dimension
- Run sections through planer to obtain final thickness dimension
- Assemble sections together for final glue up
- Rout and sand edges and end grains - then finish treat the surfaces

Quick note: *Most actual butcher blocks are relatively small in comparison to this countertop; actual butcher blocks are built with the end grain up. However, this countertop is not really a butcher block, just a butcher block style. In this case, the end grain is not up, but rather the side grain is up (face grain is glued to face grain).*

The first construction step was to crosscut the rough boards to the maximum length. But before cutting, I marked the top and bottom of each board with a series of lines. Since I had 7 boards, the first one had a single mark, the second two marks, etc. This was done so that I could orient the individual boards alternating up and down on the finished top to minimize any expansion differences. So, I crosscut on my miter saw to a length of 78” since the client had finally decided on a finished length of 76”. I did not discard the cutoff boards, since I would have to “end-join” some boards to minimize waste of material.

Normally, the next step would be to rip the board to a specified width, but since my boards had a slight cup in them, I decided to run them through the thickness planer to remove most of the cup. This insures that when I rip them on the table saw, the rips are perpendicular to the top and bottom. Once through the planer, I ripped the boards to 1.8”. The width of the rip really depends on two things: first, the look of the top (thin or thick boards) and second, the size of the thickness planer. In my case, the planer was 13” so 7 boards at 1.8” each worked out to 12.6” and the overall width of 5 sections would be 63.5”. While the client had requested a specific length of 76”, the width could range from 60” to 65”.

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The next step was to assemble the boards into sections for glue up. Here it was important to orient the boards such that each one alternated top to bottom with its adjacent partner. This orientation minimizes the expansion differences of the section and the full top. Once the section of 7 boards was assembled it was glued up and clamped. I used Titebond III Ultimate which I understand is waterproof and FDA approved; it also has a reasonable working time and set time. Also, when clamping, alternate the clamps up and down to insure no cupping of the section.

(The section in the photograph is 6 boards since I wanted to leave 1 board out to possibly adjust the overall width of the countertop. Also, the center board here is longer — it was “butt-joined” two boards.)



Quick note: *Since I wanted to minimize material waste, I used a few shorter boards in the interior of each section and joined them with biscuits end grain to end grain. This took some doing since the ends must be perfectly parallel and jammed together (I used a rubber mallet and a partner). If I were doing it again, I would make all boards the full length.*

Quick note: *It is imperative that these boards join together without gaps. Depending on the quality of tools used (table saw, planer, jointer, etc.) and the experience of the craftsman, gaps may be encountered when putting the sections together. To correct this or at least minimize it, we used hand planes to remove material.*

Once the sections were set (I waited overnight), I ran each one through the thickness planer to clean up the top (also made a pass on the bottom to insure a flat fit on the island). Here the goal was to dimension all the sections so that they were all within about 1/16th of an inch of each other. A final pass through the planer will be done later.



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Now that all the sections are virtually the same thickness, I laid them out and clamped them together so I could square off all the ends to the final length of 76". Originally I crosscut the length to 78" but wanted to insure the total square-ness of the top. So, after clamping the sections together, I scribed a line across the end grains, then I cut the sections using a sled on the table saw.



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Next, since all the sections are the same length and the assembled top is square, it is time to finalize the thickness. Also, since all section thicknesses are within 1/16th of an inch, the planer can be switched to its finishing setting (179 cuts/inch). This insures all the sections are identically the same thickness and planned smooth to minimize sanding later.

Now, it is time to assemble the sections for final glue up. As mentioned earlier, **it is imperative that these sections be joined without gaps**. If gaps occur, hand planes can be used to correct or minimize them.

I glued and clamped three sections together first, the next day glued and clamped the last two sections



... and finally glued and clamped the entire top.



This order depends on the clamping size and the assistance you have.

After set time for glue, I sanded the top joints (120 grit - with the grain only) to remove any glue and sanded the end grains to remove any saw marks.

Finally the countertop is assembled but all the edges are square. In my case, I decided to cut the four corners on a 1/2" 45 (with my circular saw) and rout the top and bottom edges with a 1/4 round-over bit. This prevents or minimizes splintering, clothes damage and injuries to small children.



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Finished Butcher Block Countertop ... final dimensions 63.5" x 76"



Here in Louisiana we always go for a little Lagniappe, so from some of the leftover maple we decided to make a round top that could be mounted as a lazy susan or used separately as a butcher block. We first planed the thickness down to 1" and then constructed this on a table saw and sanded the edges.

Even though the finish was left to the client, we applied two products made by John Boos & Company; the first was Boos Block Mystery Oil and the second was Boos Board Cream.

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