Stiffening The Guitar Sides

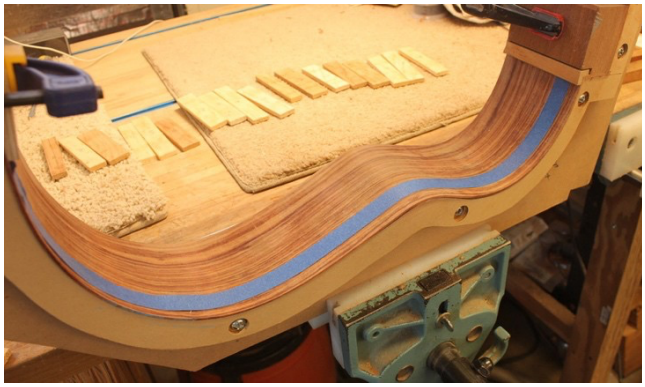
In this chapter we show how to stiffen the sides of your guitar by adding one to two layers of veneer.

Stiffening the sides by adding one or two layers of veneer:

This is often called making double or triple sides. I'm going to show my technique for adding layers of veneer to your sides.

Many players like extremely light guitars—and I can understand this. It's really pleasant to play a very light guitar. However, in many cases, the sides can cup during or after bending, and it's obvious in the reflections that the sides have become uneven. Adding one or even two layers of veneer can significantly stiffen the sides. With very stiff sides, the vibrations are much more targeted to the top and back, and little is wasted on the sides. One extra layer is much stiffer than none—two is significantly stiffer, but the disadvantage is that the guitar is somewhat heavier. You've not only added the wood veneer, but the glue to keep it in place. Whether you add one or two layers (or none at all), is up to the builder. You should try it and see what it does for the looks and sound of your guitars and decide how you want to move forward.

Photo 1

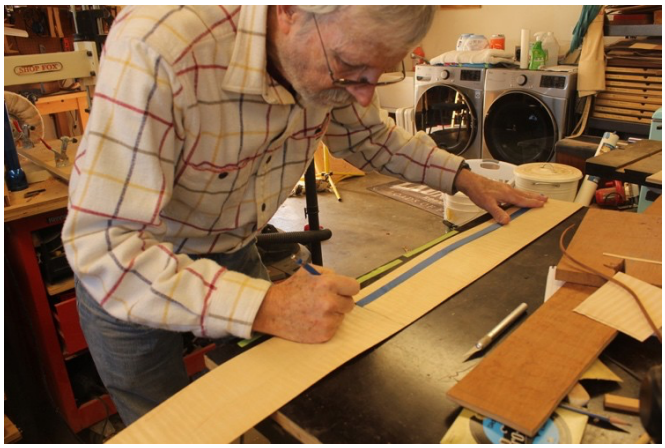


We're starting with a classical guitar with granadillo sides. In the photo 1, the sides are bent, the headblock and endblock have been glued on, and we're ready to add a layer of veneer to the sides. The tape is used to measure the length of veneer we're going to add, and the small clamping cauls on the bench will be used to clamp on the veneer. Now, realize that it will be nearly impossibe to get the vener to fit perfectly. In most cases, there will be a small gap between the end of the veneer and the endblock or headblock This is perfectly ok—we'll fill in that gap with a "popsicle stick"—made of spruce or cedar, and it will match with the other sticks we'll add every 5 inches or so around the sides. If you try to get the veneer to perfectly fit, you're likely to split the veneers, and cause other problems.

Photo 2

In photo 2, I have arranged all the cauls along the side of the guitar, and have given each a number. I have also sanded the back side of each caul to match the curvature of the gutiar side as closely as possible. The curvature doesn't have to match perfectly, just get close.

Photo 3



In photo 3, I have taken the tape off the sides and put it onto a piece of maple veneer. I'm going to make this a triple side guitar, so it will have two veneer layers. The center layer will be maple, the outer layer will be mahogany. This way, when I cut a sound port, it will have three color layers: the guitar sides, the maple, and the mahogany. I'll mark the end of the tape with a pencil, and use a pair of scissors to cut the veneer to length.

Photo 4

In photo 4, I'm mixing .3oz of epoxy resin (System 3 general purpose epoxy), along with .15oz of fast setting hardener. This will make just about the right amount for gluing on one veneer layer.

Photo 5

In photo 5, the mixed epoxy is being spread onto the side. I'm using a foam brush to both spread and smooth the glue on the side. Once the glue is in place, you should move quickly, because you don't want any of the glue to run and pool into the upper and lower bout areas. It won't flow quickly, but you need to put the veneer down as soon as possible.

Photo 6

Here, in photo 6, the maple veneer is being placed onto the side. I'm trying to put even pressure onto the veneer and get the veneer exactly in place to clamp it down. Note, you should trim as much excess from the size of the veneer as possible. You'll have less to trim away later.

Photo 7

In photo 7, you can see that I'm clamping down the veneer, using the pre-shaped and numbered cauls. The clamps are being clamped against the mold ribs, so they are held level all the way across the side. This helps make and keep the sides level.

Photo 8

In Photo 8, all the clamps and cauls are attached to the side, and we just have to wait until it dries. It should be few hours.

Photo 9

In Photo 9, I've completed gluing the maple veneer to both sides, and also put a mahogany veneer onto both sides.

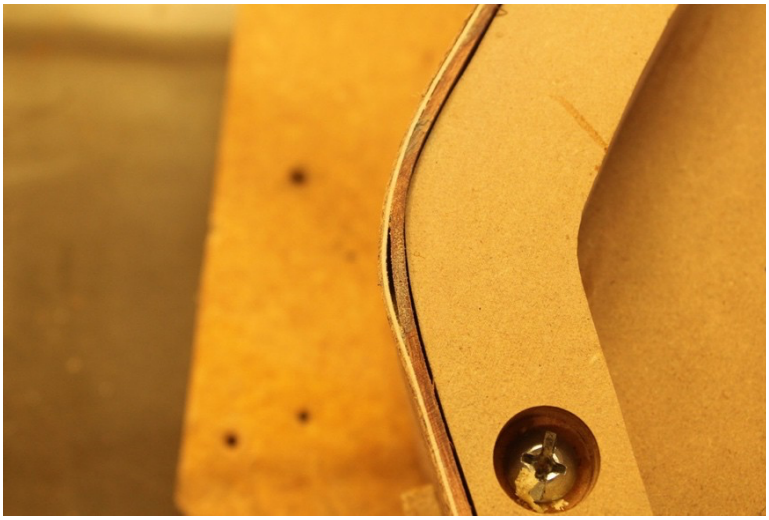
Photo 10

In Photo 10, you can see that I've removed all the clamps and cauls, put go-bars to hold the sides firmly against the mold, and, using a radiused sanding dish, have sanded the veneers down to level with the sides.

Photo 11

In Photo 11, you can see a closeup shot of the sides with the veneers glued in

Photo 12

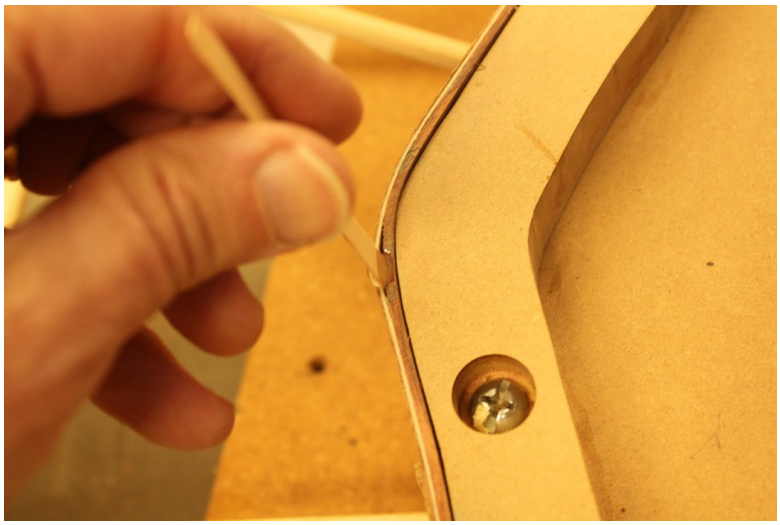


In photo 12, you can see a common problem, that we try to avoid by using the cauls, and trying to keep the veneers pressed firmly against the sides, but it just happens sometimes. A small gap is created. We need to fill it.

Photo13

In photo 13, I have mixed some 15 minute epoxy. I want it to dry quckly, but not as fast as 5 min, epoxy. I'm using a small piece of maple vener as the stirrer, so I can also use it to put the epoxy down into the gap.

Photo 14



in photo 14, I'm using the piece of maple evener to shove the epoxy as deep into the gap as possible You need to be sure that none of the glue gets between the sides and the mold. Gluing the sides to the mold would be bad.

Photo 15

In photo 15, I'm using a guitar string to shove more of the glue into the gap.

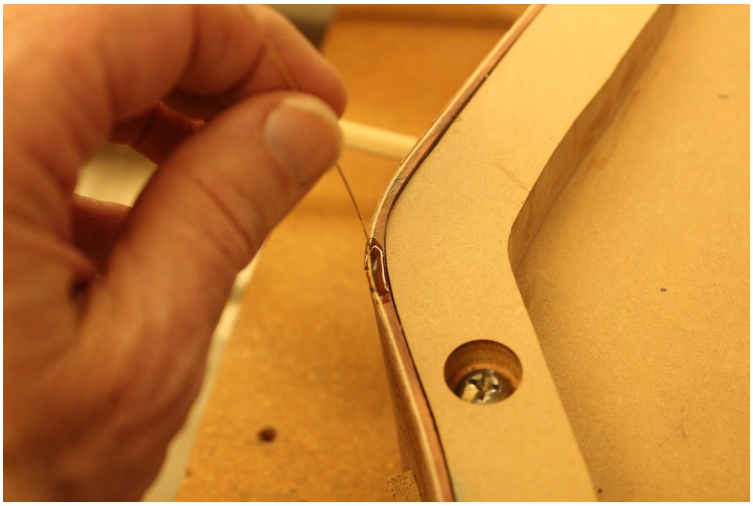
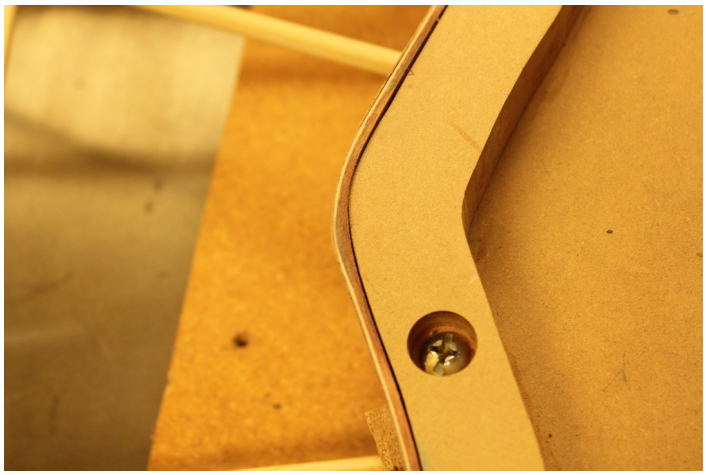


Photo 16



In photo 16, the glue has dried, and has been sanded back, level with the sides We're now ready to move on to putting on the kerfed linings.