



One cabinet would have been taxing enough...

Make a pair of...

Curved & glazed cabinets



A veneered carcass and curved glazing on the doors of these two cabinets presented problems, but the solutions earned Marc Fish a Guild Mark for the result

Do you ever open your mouth and live to regret the words that spill out uncontrollably? The client's brief was for a cabinet to house lead crystal glasses. Discussing this with her, I heard myself suggest "curve-fronted with custom-made curved glass." Now why would I say that? Needless to say she loved the idea. "Why don't we have two?" she said. Oh well, nothing like a challenge, but little did I know how much of a one that would turn out to be.

She loved the idea of exotic woods, and we chose Macassar ebony (*Diospyros celebica*) and rippled sycamore (*Acer pseudoplatanus*). The carcass is made from 19mm Russian birch (*Betula spp*) ply which has been veneered in rippled sycamore, see *Veneering panel* over page.

Curved fronts

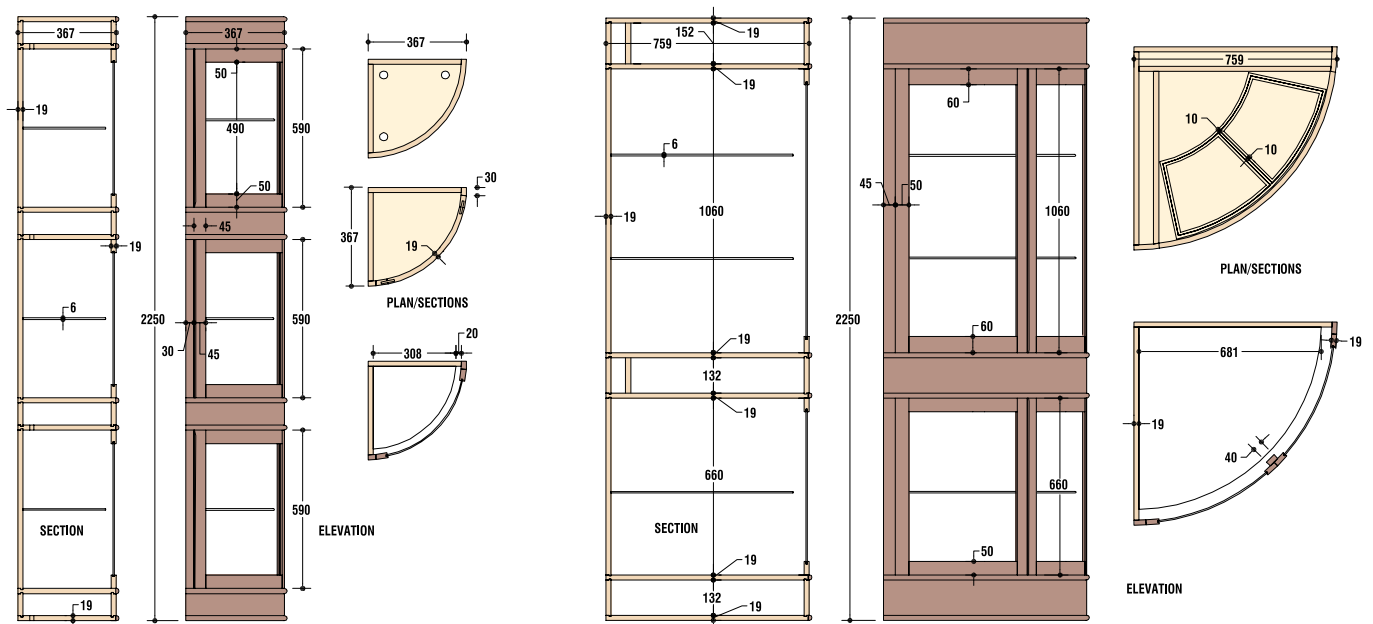
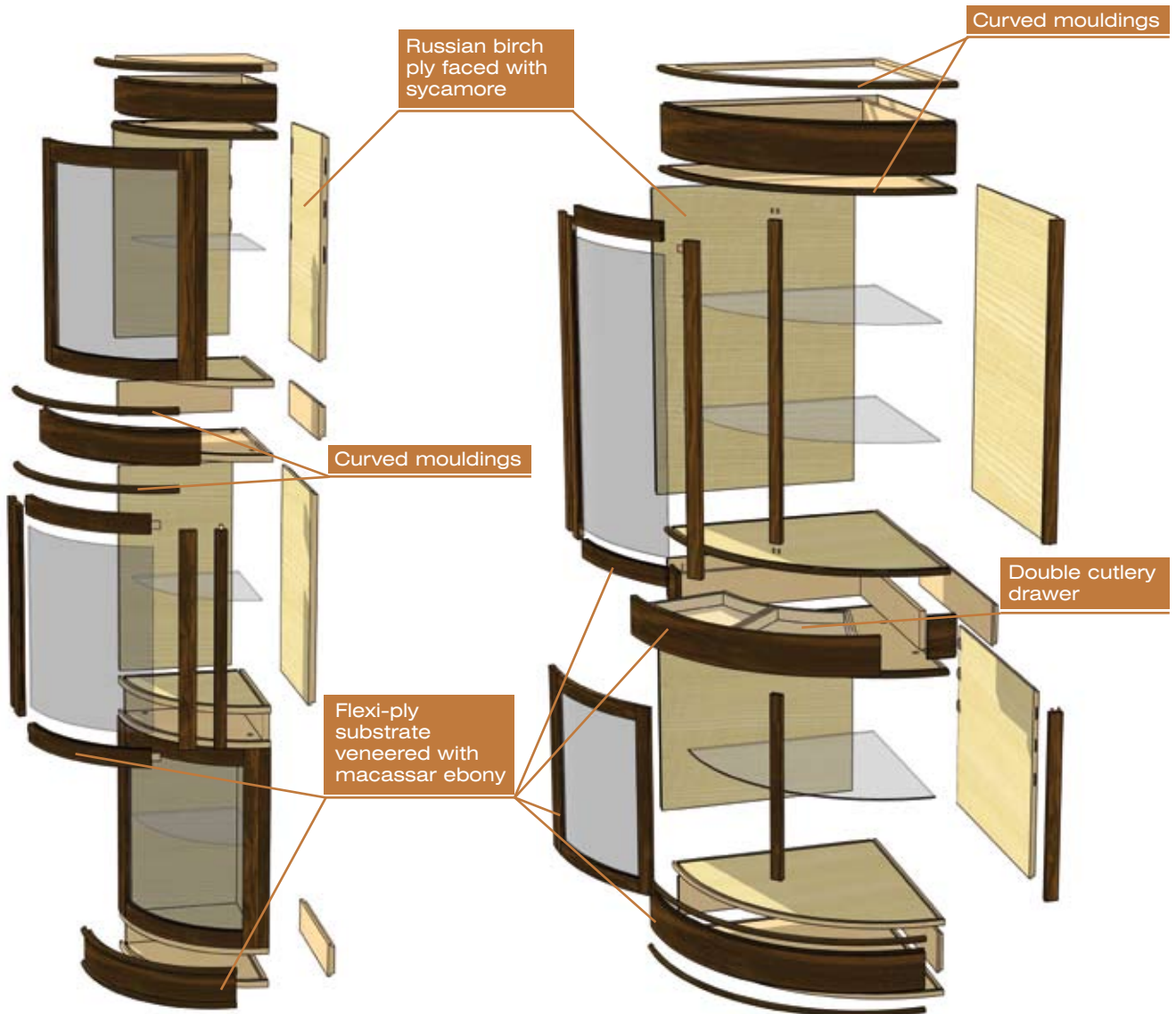
I had decided that I wanted all of the cabinet to follow the same radius around. This includes the door and cabinet stiles, a design that is uncommon on curve-fronted cabinets. The radius is barely noticeable on small sections like a door stile, but I wanted these cabinets to be something very special. I had bespoke cutters made for the spindle moulder with the exact radius required. These were quite expensive at around £80 a set including limiters, but I think the extra detail it creates is worth it, *photo 6*.



... but two were something of a challenge

PHOTOGRAPHS COURTESY OF MARC FISH

In detail





1 Handshooting veneer is not a practical option when there is so much to do...

I usually shoot the edges of the veneer with a No. 8 hand plane, but with the veneer clamped to a makeshift shooting board and with quite a lot of jointing to do, I needed to speed up this process, *photo 1*. It may scare even the hardest of you out there but it is possible to get a great result on your surface planer.

Place the veneers – a large pack can be done like this – between two pieces of MDF or ply of about 60mm wide by about 100mm longer than your veneer then, with the veneer flush with the bottom of the sandwich, place the stack on the infeed table.

Now attach F clamps at both ends with handles pointing to you – you might need one in the middle as well. Ensure it is square to the table and pull the guard/fence to the front of the planer allowing only enough for the jig to pass over, *photo 2*. This is quite a safe procedure because you use the handles of the clamps to hold the jig, thus ensuring that your hands are not passing over the cutter block; a couple of passes is usually enough to achieve a superb finish.



2 ... much better to do the job between pieces of MDF on the surface planer



4 ... is joined with UF glue and clamped with Sellotape

I have had little success and I do mean little, with pressing veneers with PVA glue, even D3 grade. It still has a tendency to creep away from the joins when you turn your back. I have tried most glues and found the best by far to be urea formaldehyde (UF) adhesive. Choose a hardener to suit your needs regarding pot life and pressing times.

Use genuine Sellotape to join the veneer, *photos 3, 4 & 5*, rather than the five rolls for £1 sort from the pound shop – this in no time for cost cutting. Stretching the tape across the join will act as a clamp, ensuring invisible joins. Sand or pick off after pressing, taking care not to pull out the grain.



3 The cut veneer...



5 The finished effect is well worth the effort

Mouldings

Curved horizontal mouldings are another area for potential headaches.

I had decided to shape these and run a groove to fit the shelves before steam bending them onto a former of the correct radius, but as anyone who has done some steam bending will know, it's not an exact science. You basically have to over bend it because it bounces back when removed from the former.

Ideally, allow at least a 50% failure rate to accommodate a few attempts to find the ideal radius; even then some will just break. It depends on the species of tree and varies from piece to piece. In the large

cabinet I used 15 pieces to obtain the final six I needed, but on the small one with a tighter radius I failed on all attempts using different steaming techniques, so decided to laminate the curves for this out of 2mm bandsawn laminates, *photo 7*.

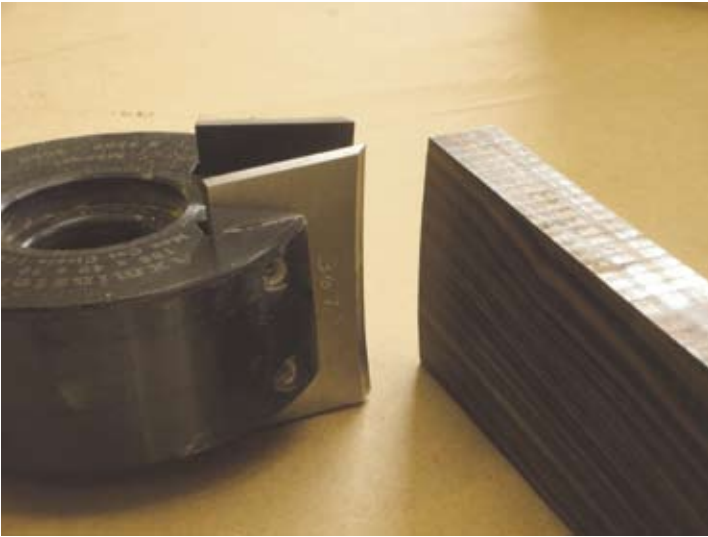
With both techniques I spindle moulded the half-round profile after they were attached to the shelves using a trammel point. This is one of my favourite techniques. With the spindle moulder set up with a profile guard, and a sheet of ply secured in front, you can mark the radius you require and attach a jig by a nail at that point. It is the same procedure used in cutting circular tabletops on the bandsaw.

Rotate the piece through the spindle moulder and hey presto! With a little imagination and some simple jigs some amazing results can be achieved.

I think the spindle moulder is vastly underused, mostly due to its poor reputation in the past for safety. These modern machines are generations better, but in my workshop people still walk round it and go to the router table.

Doors

The horizontal bands and door rails were veneered over flexi-ply, in this case 2 x 8mm and 1 x 3mm. These are laminated again in the vacuum bag. In



6 These bespoke spindle moulder cutters were cheap at the price



7 The curves for the smaller cabinet were laminated from 2mm material

this case I made the former large enough to allow me to laminate a large sheet and bandsaw the pieces I needed after they had set, *photos 8-10*.

Before the door rails were veneered they were shot to fit the gaps. The door stiles were taped closed against the cabinet uprights, then the rails were cut roughly to length but shot on a shooting board to achieve the angle and perfect fit.

I used the Festool Domino jointer for the tenon on the door rails. This was quite painless and I made a simple shim to go on the base of the jointer, the optional accessory for holding small parts centralising the rail, plunge and one mortise. This is a new tool in my arsenal and I am looking forward to using it quite a lot in this workshop.

After dry-assembling the doors without the glass, I then taped them up and aligned them in the door openings.

When all was satisfactory I tried again with the glass fitted.

Cutlery drawer

The larger cabinet was to have a curved front drawer to house the silver cutlery, a lovely set of Mappin and Webb. I had

decided the cutlery should fan around inside the drawer. The drawer has a curved back of the same radius as the cabinet front; when pulled out, the back lines up with the front of the cabinets.

This was not mentioned to the client at the meetings as I wanted it to be a surprise – if it worked it would be a surprise to me as well! *photo 11*.

Trial and error were the way forward on

“It may scare even the hardest of you out there but it is possible to get a great result on your surface planer”

this project and much time and materials were swallowed up.

Laminates for the curved piece sprang back after being removed from the former and my first attempt using 16 sheets of 0.6mm veneer ended with cupping because of the moisture content of the PVA, so I went back to UF, *photo 12*.

The curves were very critical as the cutlery is housed in two removable trays

with curved fronts and backs.

The drawer has a false front to facilitate accurate alignment and runs on customised ball-bearing runners, with a push-to-open mechanism.

Drawer dovetails

The dovetailed drawers were not a lot more difficult than on a standard drawer, but full-size drawings and two bevel gauges were necessities. I laid out all the pieces for the drawer on a full-size drawing or rod, marked the correct angles on them to the correct lengths and shot down to the line, *photo 13*.

Each piece was then ready for laying out dovetails as normal, *photo 14*.

Drawer trays

The trays are laid out as for the drawer. To ensure a nice slide fit in the drawer I shot the length of each piece by checking them in the drawer until they just slid in. Careful planing is required to avoid sloppiness, *photos 15-17*.

Once all pieces are just sliding in the drawer then the dovetails are marked with no allowance to plane off the pins or sides. Accuracy is the key here, with



8 The horizontal bands and door rails were veneered over flexi-ply, then laminated again in the vacuum bag



9 The door components...



10 ... went together nicely



11 The curved back of the drawer has the same radius as the cabinet front



12 The moisture content of the PVA led to the curved pieces cupping so I used UF instead



13 The dovetailed drawers required a lot of setting up and accurate bevels...



14 ... to achieve this result



15 The drawer trays...



16 ... required careful planning...



17 ... but I was pleased with the result

< only one or two shavings to clean up, and that is why the fit of the length is vital. The drawer and trays are leather lined, suede side uppermost.

Maker's plaque

A maker's plaque is housed in a pull-out shelf on the small cabinet, and is engraved on a hallmarked solid silver plate surrounded by 0.6mm silver stringing which is inserted in a router-cut or scratch-stock groove, as for a wood inlay, *photo*

18. After it is glued in place a sharpened cabinet scraper easily flattens the proud silver stringing without creating dust that might contaminate the surrounding wood.

Final door fitting

After all the doors had been dry assembled and checked in their openings, I glued them up, *photo 19*. Firstly I glued one half of the Domino in the mortise and waited for it to dry, in so doing allowing for a little more adjustment if needed. I used UF glue for the Dominoes and also bonded the glass into the frames so that the weight of the glass is on the door hinge stile and not the tenon joints. Glazing mastic is easy to apply in the grooves and peels off when dry.

I glued the doors one by one on my bench, *photo 20*. and to achieve clamping pressure on the curved surfaces I clamped two sash cramps in opposite directions from the door stiles to a piece of timber which runs up the middle of the front of the door.

After checking for square and flatness, I stretched glass fibre reinforced tape over the joins, as for the veneering. This tape is stronger than Sellotape and holds a well-fitting joint together nicely.

Sanding & finishing

The finished cabinets are sanded down to 320 grit then a brushable French polish is

Glass problems

At the beginning of the project I ordered the glass just as you should, nice and early. When the glass came I checked the height, width, circumference, radius and thickness. So far so good. I wrapped it up and put it somewhere safe until I was ready to use it towards the end of the project.

After trying two pieces I was surprised to find the doors were warped and were not sitting in the door openings.

I took them apart, rechecked the frames and found them to be correct. Then it dawned on me. Maybe the glass was not flat.

After checking the panes on a cast-

iron saw table my worst thoughts were confirmed. Four out of seven pieces were warped by over 3mm from corner to corner.

OK, I thought, I'll ring up the glass company and order some more. How difficult could that be? "Very" was the answer. Seventeen pieces were sent over the next two months, some too big, some the wrong radius or wrong thickness and some still warped.

To cut a long story short – a very long story in fact – I had to settle for five perfect pieces, and two 'nearly perfect' – the glass company's terms for curved glass that is warped by 2-3mm!



18 The silver plaque is housed in a pull-out shelf on the small cabinet. The silver stringing is inserted as for wood inlay



19 Careful cramping required here – I didn't want anything to go wrong at this stage!



21 The glowing result of a shellac finish applied the traditional way

applied as a base. This helps fill the grain without having to use a grain filler.

This product can be cut back in between coats with 320 grit after as little as 20 minutes.

I applied two coats and then used a traditional shellac rubber to apply a French polish finish. I don't usually go for a super shiny finish but I think Macassar ebony really does glow when finished in this way, photo 21.

Delivery

Anyone who has visited my workshop will know that my work area is upstairs, a fact that always makes for an interesting delivery day. Any large items have to be made in sections to allow for the stairs. It is always tense just as my team bend the piece around the doors and down the stairs, and on this occasion there was only 10mm on either side of the large cabinet to spare.



20 The doors were glued up one by one



22 The doors are fitted with magnetic closers

It is always a good sign when you deliver the piece to the client and they cry and give you a big hug (female). They must be happy.

The piece was awarded the 401st Guild Mark by the Worshipful Company of Furniture Makers last June. **F&C**

More on veneer techniques on page 58. Check out www.woodworkersinstitute.com for many other techniques.