



instructables

DIY Resin River Table Using Clear Epoxy Casting Resin and Wood



by GlassCast Resin

Live-Edge Resin River Tables are beautiful pieces of furniture and highly sought after and with the right planning and skills can be created by experienced wood workers and DIY'ers.

We recently published our [Penny Floor Project Instructable](#) due to the demand for information on the subject and now we're experiencing high volumes of calls regarding making Resin River Tables. So we're back with a new Instructable on how to create your own Epoxy Live-Edge Resin River Table. For this project we decided to create a coffee table with a central resin 'river' running along it, but we also mitred

the sides to create a waterfall effect on both legs. You can adapt the process to create small side tables, large dinner tables and other types of furniture and art pieces.

We've also produced an eBook for in-depth instructions which you can download free of charge [here](#).

Hope you enjoy it and please post any questions/comments ...

<https://vimeo.com/260205671>

Step 1: What You'll Need: Preparation and Materials

The Products and Materials used in the project:

- GlassCast® 50 clear epoxy resin
- Wood - English Yew - with a waney edge
- Translucent Tinting Pigments - we used blue
- Tape - flash/release and double-sided
- Polypropylene Sheet
- Polishing Compound and Oil (or similar)
- Tools - various
- Abrasives
- Spreader & Mixing sticks
- Mixing Cups & Mixing Buckets
- Epoxy Adhesive
- Safety Equipment
- Hot-Melt Glue-Gun
- Digital Scales

It's very important that the environment you are working in is a dry, heated space with an ambient temperature of around 20°C throughout the process.

The Resin also needs to be at room temperature - so if it's delivered cold or it's been in the garage you will need to raise the temperature to 20°C before use.

Any damp or cold conditions will affect the end result and the room needs to be as dust & dirt free as possible.





Step 2: Choosing and Preparing the Wood

When choosing your wood you need to make sure that the wood is seasoned, dry and as flat as possible.

The style and type of the wood is a personal choice - although interesting grains and waney-edges work best for this type of project.

We cut down and prepared our piece of wood but if you don't have the equipment you can ask your supplier to cut the wood down to the correct size and depth and also ask them to cut it in half if you're going

to do a central river channel.

You then need to flip and invert your pieces of wood to create the river channel and remove any bark from the live-edge. This will allow the resin to bond to the solid wood and the finished table will be mechanically strong.

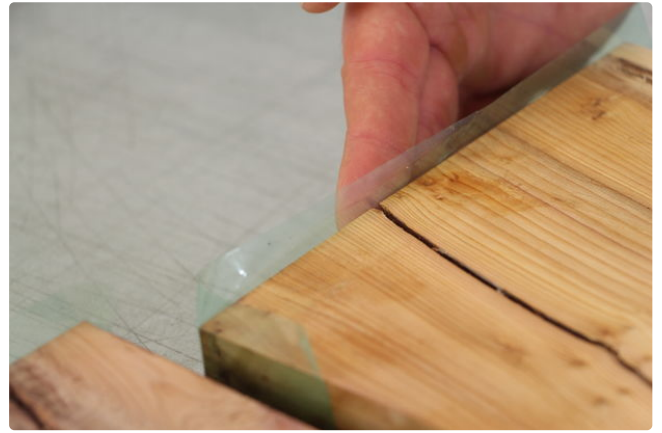
Use a chisel to remove the bark and then rub down with abrasive paper to remove any loose material, then wipe or vacuum any dirt and dust from the wood.





Step 3: Sealing the Wood and Filling the Knots

- Next you need to check for cracks, knotholes and gaps on both the top and bottom of the pieces of wood and fill these with resin to seal them
- Use some tape to seal the cracks and gaps to prevent resin running out- a release tape works well for this.
- Measure and mix a small amount of resin and pour into any gaps - make sure you check on this after a few hours to see if it needs topping up as the wood will probably absorb some of the resin.
- Overfill the gaps slightly with resin and then leave to cure fully following the instructions.
- When the resin is fully cured use abrasives to level off the surface, removing any high spots with a sander or with abrasive paper - you are aiming to leave a keyed surface so a coarse abrasive is ideal.
- **TIP** when you have thoroughly mixed the resin and hardener, pour the mixture into a second cup and mix again to make sure no unmixed resin remains - this is called 'Double Potting'.
- The resin we used can be measured by weight at 100:45 resin:hardener or volume at a ratio of 2:1



Step 4: Creating a Container

Now position your slabs of wood and allow for your river channel so you can make a container around the whole table slab - this will support the resin whilst pouring and curing (the river):

- Begin with a flat sheet - something like mdf or chipboard which is just slightly larger than the slab you will be producing which will make a baseboard to work upon.
- Next using a suitable product (we used polypropylene sheet as the resin doesn't stick to it) cut a base and side barriers to create a container around the wood. Make the base approximately 8cm larger than the table size to allow for side barriers and battens (if required).
- Using a hot-melt glue-gun run a bead of glue all around the base and side barrier joins to make sure the container is water-tight.
- Test it's watertight but make sure you dry the container thoroughly.
- It's a good idea to use clamps or weights to ensure the planks do not float around in the resin - test this too, to ensure it stays in place and remains as flat as possible. When you're happy remove all the clamps, supports and the wood for the table and you are ready to prepare your resin.
- You may need some batons to place against the wood and the clamps - we covered ours in flash/release tape so it wouldn't stick to the resin



Step 5: Resin - Measuring, Adding Colour and Pouring

Personal taste will dictate whether or not you choose to tint or colour your resin or leave it clear. Lots of makers are using glow powders, metallic pigments, solid colours and embedding things in their resin rivers and **we would recommend thorough testing** in a small amount of resin with any effect you want to achieve before attempting your table.

We used a blue translucent tinting pigment in our resin to achieve the watery effect in our table.

The resin we used is the new GlassCast® 50 resin which can be cast to a depth of 25mm in a single pour.

For this project we divided the main river pour into two - and prior to this poured a base/sealing layer.

Measuring & Colouring

- Following the instructions measure or weigh out the resin - enough for the total project to ensure consistency.
- Add the colour pigment to the resin - a little goes a long way so add a couple of drops at a time and mix thoroughly.
- Limit each mix to 5kg and repeat if necessary
- Then add the correct amount of hardener to the pre-coloured resin and mix thoroughly
- Then transfer to a second clean bucket and mix again (double potting)

You are now ready to prepare the resin ready for the base / sealing layer.





Step 6: Pour Base Layer and Allow to Reach the B-Stage

We advise pouring a base layer to seal the underside of the wood - this will help to minimise air bubbles during the main pour.

- Make sure the resin completely covers the whole base area
- Place the wood planks back into the correct position on top of the resin
- Using a brush seal the waney-edge and top surface with resin including filling any knots, splits or cracks
- Position pre-covered wood blocks over the barriers and batons and clamp into position
- Allow the resin to reach the **B-stage** of the cure

B-Stage

- The B-stage means that the resin has started to become firm but still has a tackiness
- To tell if this stage has been reached - with a gloved finger, touch the resin and if it leaves a mark but does not stick to the glove it has reached it's B-stage and you need to prepare part 1 of the pour
- If you allow the resin to cure past the B-stage then the resin will not chemically bond to the next layer so will need to be keyed all over with abrasive paper to create a bond with the new layer

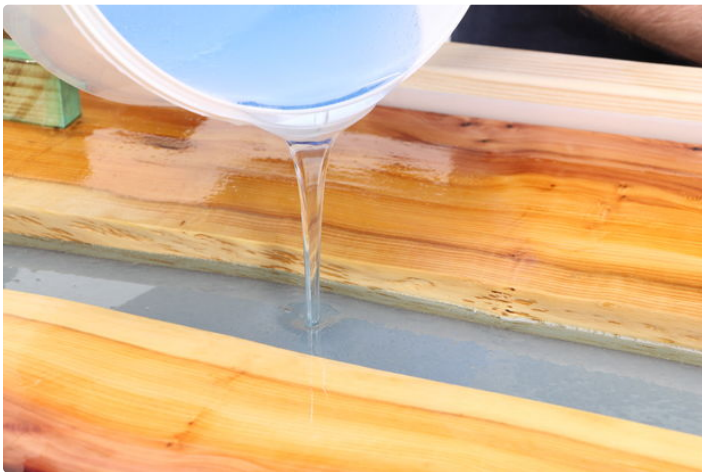




Step 7: Pour River Layer 1

Once the B-stage has been reached on the base/sealing layer you need to prepare the resin for Layer 1:

- Measure out the pre-pigmented resin and measure out and mix in the correct amount of hardener
- Transfer to a 2nd pot and mix again
- Pour the resin into the river channel
- Use a heat-gun to remove any bubbles - the GlassCast 50 will self de-gas but you can speed up the process by using a heat-gun or hairdryer on a medium heat held back from the resin.
- Then leave Layer 1 to cure to the B-stage



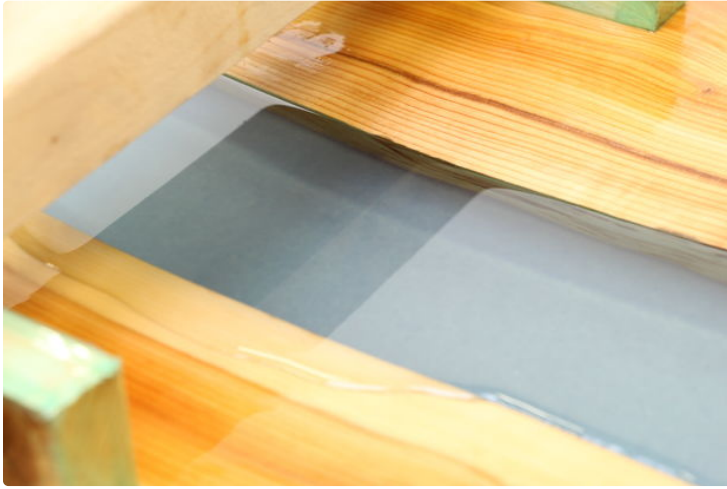
Step 8: Pour River Layer 2

Repeat the stages again for the 2nd main pour once the B-stage has been reached on part 1:

Measure - Mix - Pour - Heat-Gun

If required, repeat the process until the river is full - remembering to double pot the mixes and if pouring multiple layers wait for the B-stage before mixing and pouring the next layer.

Aim to slightly overfill the river channel, then leave the resin to fully cure!



Step 9: Routing & Sanding

To finish the table in the project we used a router set up over the slab on a bridge as we didn't have access to a drum sander or thicknesser and routed the surface all over by making multiple passes.

This gave us a flat, even surface of equal thickness all over and we were then able to sand the surface using a hand-held sander and working through the coarse to smooth grits to achieve a beautiful finish over the wood and resin.

We worked our way through 120, 240, 400, 800 and

1200 grits and made sure all scratches were removed from the previous grit at each stage before progressing to the next one. If this isn't done correctly there will be tiny scratches visible in the final polish and the sanding process will have to be repeated.

You can of course completely avoid this stage if the look you want to achieve is a high-gloss all over which can be done by pouring a coating resin like the [GlassCast 3](#) over the keyed surface.

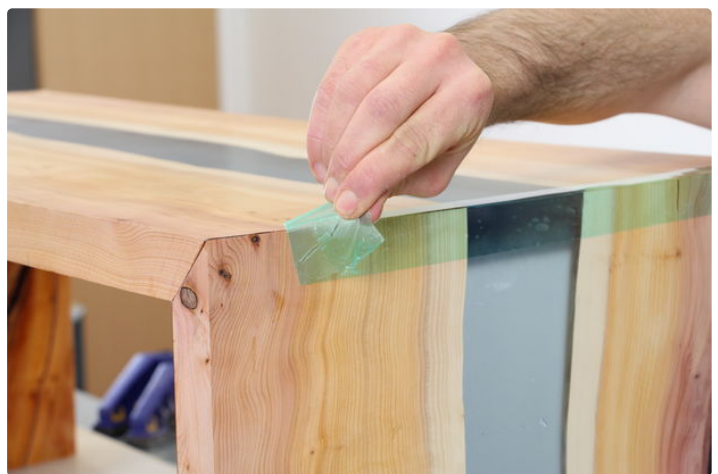
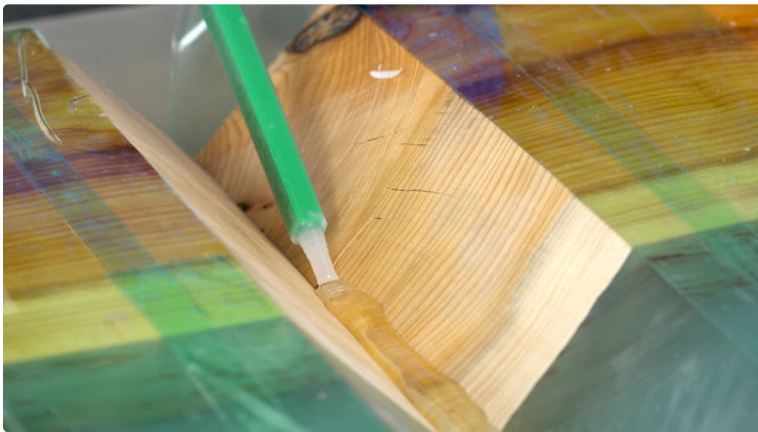
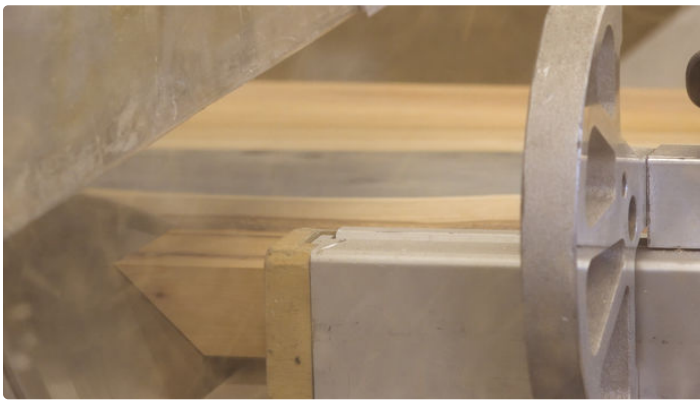


Step 10: Making and Attaching Sides/Legs

Then we created the sides - you could attach ready made legs like hairpins but we wanted to create a waterfall effect on the sides to add more interest to the piece.

This was done by:

- Measuring the slab and marking off the 2 sides/legs
- Mitring the slab using a 45° angle on the saw and bringing together the 2 angles in a 90° angle
- Repeating the process for the other side/leg
- Then using a clear epoxy adhesive we bonded the joints
- To do this we masked off the areas immediately around the joint with flash/release tape to limit any overspill and create a hinge which helped guide the two sides together correctly
- Then we applied the adhesive to the outside of the joint so that when it was squeezed together it filled the joint evenly and fully
- Then we supported and clamped the sides into place to support the angle during the cure and left it until fully cured, then removed the tape



Step 11: Polishing

To finish off the table you will need to seal the wood - you can choose the look you want to achieve - we used a clear Danish Oil and rubbed it in using a lint free wipe, then allowed it to soak in and dry.

It's important that you do this prior to polishing the resin river as the polishing compound may mark the

wood if it's not protected.

To polish the resin you will need a hand-held polisher and a high quality polishing compound like the Pai Crystal NW1, we applied the compound to the river and used the polisher to achieve a high gloss finish.



Step 12: That's How You Make a Live-Edge Epoxy Resin River Table!

That's how we made our Resin River Table!

You can see from the images that the river is so glossy and the blue pigment looks so water-like.

You can change the appearance of your piece of furniture by using different products like a wax or stain to change the look of the wood and of course you can change the appearance of the river too by using different colours, or embedding objects in the resin pours.

The resin also looked really good after the sanding process with an opaque look, so you could leave it with a matt effect or as we mentioned before you

could pour a coating resin over for a full gloss finish on the resin and wood - it really is all about personal taste.

You can also adapt the processes and techniques for lots of different projects using wood - the possibilities are endless!!!

We've got different projects and products with lots more details and technical datasheets over on our [website](#)!

Check out our brand new project - [Neon Resin Plank Table](#)!



Update:

Hi, we are now aware of a company in the UK offering courses - you can find them here:

<http://www.friendlyforcesconstruction.co.uk/courses>

Thanks



Just go to WoodPrix's plans if you want to know how to make it yourself.



Hola un traba impecable y hermoso, TE FELICITO!!!

Una consulta, yo estoy queriendo empezar a trabajar con resina epoxi, me podrías decir, como podría escuchar el video que publicas en español o bien subtitular el mismo.

GRACIAS!!!!



Thank you for your kind comments, we are glad you like it!

<https://www.youtube.com/watch?v=tTu8WkBdKbA&t=16s> Please see if you can watch the video with translations here. Thanks



Ya vi el video, que belleza, gracias. Me encantó! Te agradezco, ya que todavía estoy con las proporciones de la resina epoxi el catalizador y el color que quiero dar estoy un poco perdida, pero ya voy a encontrar las medidas exactas!

Muchas gracias, soy una gran admiradora de tus trabajos.

Saludos

Natalia.



Hi Natalia, if you could translate this guide <https://www.easycomposites.co.uk/downloads/How-to-Make-a-Resin-River-Table-GlassCast-Handbook.pdf> it will tell you how to calculate the volume and work out the ratio of the resin and hardener. Thanks



I'm wondering what is the thickness of the polypropylene sheet and where would you buy a large sheet of it?



This polypropylene sheet is 3mm deep and is available in different sheet sizes from <https://www.easycomposites.co.uk/#!/patterns-mould...> it is also available from various plastics suppliers depending where you are based. Thanks



How did you cut the HDPE sheet?



We didn't cut our polypropylene sheet down for this project, however it can be cut down and machined using conventional wood working tools and methods, if machining, care must be taken to avoid heat building up as the plastic can melt slightly and leave a poor edge, sharp blades and reasonably fast feed rates normally eliminate this problem.



Nice article!

And what a very nice table, i have a question where did you bought the epoxy?

I bought mine at <https://www.mrboat.nl/mrboat-epoxy/>

Loves,



Approximately how long between each pours of resin? How long does it take to get to the B stage?
Thanks in advance



Thanks, using this particular resin - the GlassCast® 50 in an ambient temperature of 20°C it takes around 10-12 hours to reach the B-stage. This can be tested using a gloved finger and at this point there should be a tackiness to the surface but no resin should stick to the glove.
Hope that answers your question. There is more detail on the product specification on the website when you look at the product. :-)



love your table and the amazing instructions. Haven't made a table yet but hoping to do something with wood soon. do you have an Instagram account?



Thank you - good luck with your project and yes we are on Instagram - easycomposites :-)



Great instructable!! Have you had any issues with yellowing after time?



Thanks!

This project was created in March so no change in appearance at all.

The technical information for the GlassCast 50 - it was designed to be an epoxy with the best possible UV stability. Much like the paint on your car, nothing is completely invulnerable to the effects of prolonged UV exposure but, by epoxy standards, GlassCast 50 is about as good as it gets. We have done lots of accelerated UV testing (leaving samples in intense UV exposure units) which are far stronger than normal sunlight and in months of this testing we can barely detect any discolouration. Nonetheless, we still don't recommend GlassCast (or any other clear epoxy) for permanent outdoor UV exposure.



Hi I am planning to do something similar but with painted wood. Will the resin protect the painted wood? Is it possible to add some UV absorber to the resin?



Hi, the resin will protect the wood from scratches, marks etc and also with a high level of UV resistance in the resin it will prevent fading. There aren't any UV resistant additives that can be added to the epoxy to improve the UV resistance further.

Thanks



Fantastic project I just have a quick question is the resin foodsafe? I



Thanks, although epoxies in general are inert once fully cured, the GlassCast 50 we used has not been tested or certified as food safe. So if it's food safe you're after we wouldn't recommend its use in that situation.



Hi Great looking Table :) How will the epoxy effect the blades in the thickneser. I know some glues like Cascamite ruins the blades even on a small glue line? TIA:)



Thanks!

The cured resin will blunt wood cutting tools quicker than normal wood use, but shouldn't cause damage.



Will the polish for the resin mess up the Danish Oil finished wood - I read your comment that it won't, but do you fine sand after adding the Danish Oil on the wood?



We found that by sanding the wood smooth enough to polish, then applying the Danish oil and letting it dry/cure, and then finally polishing the resin, any polish residue wipes off with no problem.



Great i'ble! Can you use polycarbonate or acrylic instead of polypropylene? Do they have the same properties of not sticking to the epoxy?



Thanks!

You can use alternative plastic sheets although you would need to use a release agent to prevent the epoxy sticking to them :-)



Thanks for the picture of the finished table! It's amazing!



Thanks for your feedback :-)



Great looking table. Thanks for sharing your knowledge on the resin process



Thanks, it was a great project!



I Love this website! Every PROJECT IS SO VERY INFORMATIVE! Thanks for sharing!



Thanks for your great feedback, we'll be back with more before too long!



Why can't I just buy one from you.
Your work is spectacular.



Wow, thank you!



Stunning results, and a fantastic tutorial. Thank you for taking the time to document and share this Instructable! :)



Thanks for your feedback, it was a great project.



I love how the resin river continues down both legs!



Thank you, we love it too!