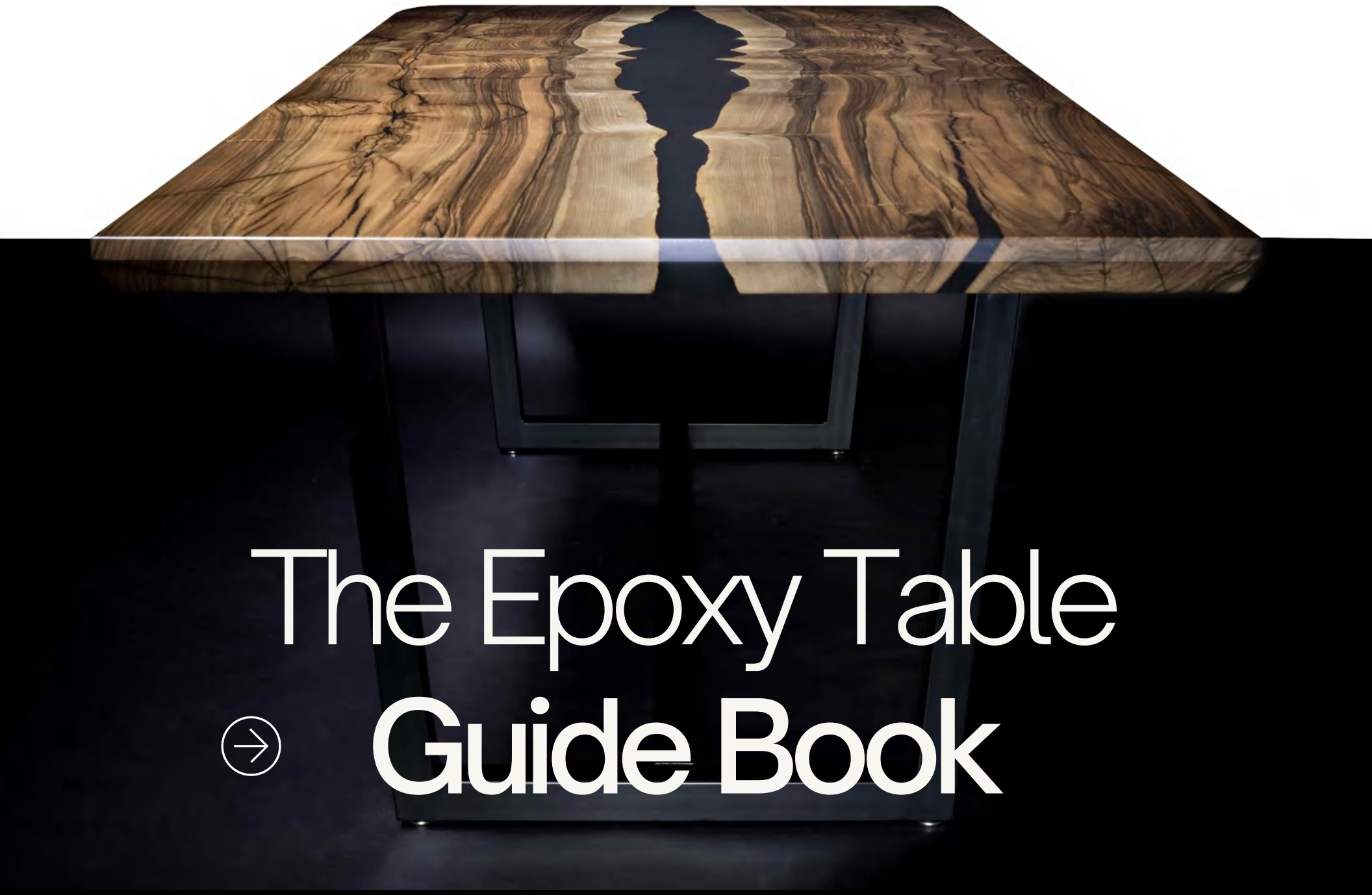
BLACK TAIL
STUDIO



The Epoxy Table
Guide Book

Epoxy Table Guidebook

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Introduction

This guidebook will provide you with a comprehensive and detailed account of everything you'll need to build your own epoxy table. Complete with step-by-step instructions, lists of materials and tools you'll need, as well as an alternative materials and tools list that you use. In case you don't have the exact tools mentioned. Follow along with the instructions, expert advice, and images of tables in different stages of the building process to create and troubleshoot your own project. This guidebook will enable you to build a table at your own pace, in your own workshop or home, while implementing your own unique design elements and layout. Throughout this guidebook, certain steps will be italicized in order to highlight important notes or steps. We recommend making your own notes as you work through this, allowing you to track your progress or make mention of important reminders, hiccups, and revelations that you encounter. This will help you streamline your table-building process, improve your future table builds, and to help others with their projects down the line. Once you have successfully completed the video or guidebook course, you will have the skills necessary to build your own desk, end table, coffee table, dining table, or some other wood and epoxy creation of your own, created entirely by you. Good luck, and remember to take your time and to enjoy yourself. After all, this is meant to be fun and educational.

PPE + Notes On Personal Safety

A quick note on personal protective equipment: Table-making presents a handful of hazards for the builder. From the sharp tools we use to the materials themselves, it's imperative to be mindful of the specific substance or material you are dealing with. Cuts, scrapes, and flying shrapnel are all large risks of the job that we need to watch out for, but dust is also a quiet and deadly culprit for long- and short-term woodworking injuries. There are many hazardous materials that you want to avoid eye or respiratory contact with as much as possible. Gloves, respiration masks, goggles, glasses, and ear protection are some of the main pieces of PPE to make regular use of. Even if you see someone woodworking, online or in person, without full PPE, we highly recommend consistent PPE use for your own projects, depending on the materials you use. For example, at times in this instructional video series, no respirator is being used. This is because the epoxy being used has a zero VOC rating, and the workshop is in a large, well ventilated open space.

Disclaimer: *Though we do recommend wearing gloves, goggles, hearing protection, and chemical respirators at all times, the purpose of this workshop is not to educate you on the safe handling of tools and materials. It is up to you to ensure that you are aware of and practicing safe techniques and wearing proper PPE for the task you are completing. This responsibility ultimately falls on you, as you are working in your own space. So be safe, and make sure you research the specific products you are using to ensure you are following safe practices for working with them.*

Choosing Wood: Supplier

When choosing wood, there are a handful of components to take into consideration. First, you want to choose a wood supplier that you trust. Don't be afraid to ask a lot of questions when you're shopping for wood. With a project of this size and the current cost of wood, you want to make sure you're making informed decisions, and if you're new to this, there's absolutely no shame in questioning everything. It's better to take a bit longer, to ask as many questions as possible, and to ensure you learn throughout the process, than to quickly buy your wood and end up back at home with uncertainty surrounding your project.
Most wood suppliers are happy to answer your questions. However, you might find some that aren't. Don't let them bully you into a sale and remember, if they don't want your business I will provide you with a list of suppliers who will be happy to answer your questions and ship directly to your house.

Where to Find a Good Wood Supplier

If you don't have a wood supplier of your own or one that you have in mind to work with, Goby Walnut is a large supplier based in Oregon who will work with you from afar. GL Veneer is another excellent company based in Southern California. They both have global shipping capabilities and can supply you with wood for your project, no matter where you live. Places like these are happy to work with beginners to provide them with advice in person or from afar. If you send them your required dimensions and requests for styles, they will provide you with personalized advice and service, and they can potentially even update you with photos of new and upcoming wood slabs.

Choosing Wood: Type

There are no hard and fast rules when it comes to epoxy tables. But I do have some firm opinions on which type of wood is the most suitable. I don't often like to tell someone "don't use this wood." But if this is your first epoxy table, I will do exactly that. Do not use softwood for an epoxy table. I don't just mean not to use a deciduous species. Do not use any wood with a Janka rating of less than 800-1000. Parota/guanacaste is common wood that is beautiful and often affordable.

However, it is about as soft as Doug Fir (box store 2x4s). The challenges and downsides of a softwood are almost too many to list. But the main issues will be sanding and finishing. The wood is very soft, the epoxy is very hard, so the transition between the two is almost impossible to keep level. Softwoods also stain easily from tinted epoxy, not to mention they are just soft, and prone to denting from things like plates, glasses, and toddlers.

Choose whichever kind of hardwood you prefer the appearance and style of, but something to carefully consider is the grain of the wood. When working with epoxy, it's helpful to look at wood with a vision of how the epoxy will interact with it. Are there flowing lines throughout the wood? Think of how the epoxy might move with those lines in order to formulate a unique design. Picture how a river bank interacts with the river. Your epoxy should 'flow' between the gaps in the wood like a river. Is there a natural gouge or defect in the wood? Think of how this might accent the color of epoxy you are looking to use, or how this might showcase a larger section of epoxy versus a consistently wooden table with little gaps. Decisions like these, in the early stages of table building, will shape the final result of your table. Ultimately, all of these decisions are personal, based on your own tastes and the specific table you want to create.

Choosing Wood: Matching

If you purchase a piece of wood for a table top and decide to buy the rest of the table's wood elsewhere or at another time, it can be nearly impossible to match the grain and color of the wood to a new piece of wood once you've left the store. All wood is unique, and once you start looking at wood from a separate tree, even if it's the same species, it is extremely difficult to find a matching grain. This is where the argument for sourcing wood from somewhere with a large supply comes from. For example, Goby Walnut in Portland carries a large enough variety of wood that you can often buy two or three well-sized slabs of wood from the exact same tree.

Slab Structure

To save yourself some money, try finding a piece of wood with a manageable amount of defects like large knots, bark inclusions, and holes. Not only will this decrease the value of the wood and remove some of the pressure associated with expensive materials for your first build. But the defects are often the most interesting aspects of an epoxy table. Try to choose something small and flat so that you have an easier time managing the materials alone while implementing epoxy in the process. Cam pro-tip: A great starter project to become familiar with epoxy and woodworking is a serving/charcuterie board. Think of something you could serve grapes and cheese on. Then, over time, work your way towards building a small coffee table, and from there, you'll have developed a much better skillset to take on larger projects.

Slab Pricing And Terminology

Before you go slab shopping, you need to understand a couple terms you will hear. The first term I'll explain is a "board foot." One board foot is a piece of wood 12x12x1". This is how suppliers measure how big a board or a slab is. So if a 1" thick board is six feet long, and 12 inches wide, it contains six board feet. If that same piece was two inches thick it would be 12 board feet. Make sense?

Pop Quiz: a board is seven feet long, four feet wide, and three inches thick. How many board feet does it contain? (answer: 84 board feet)

Where this can get a little murky, is with live edge slabs. Because there are no straight edges, there is no way to avoid some estimation. This is where I have found the reputable suppliers to be much fairer. The backyard slab dealer will often make their calculations based on the longest and widest sections of a slab, not accounting for the narrower sections. My suppliers will generally err in the customer's favor in those situations, and will often forgo charges for entire sections of a slab they consider unusable (even if I will use it). For example: sections of excessive rot, cracks, or other defects.

In addition to board feet, it is also helpful to learn how suppliers measure thickness of wood. For a couple of reasons that don't really matter, wood dealers speak in "quarters." Meaning a board isn't actually 1", it is 4/4. Not 2", but 8/4. It generally goes 4/4, 5/4, 6/4, 8/4, 10/4, 12/4, 16/4. For some reason nobody ever says 7/4, 9/4, or anything not listed above. So if you find a slab that is about 1.75", they'll know you're a noob if you say "looks like about seven quarter." However, you also want to make sure they don't charge you for 8/4. So I would say something like "It doesn't look like a full 8/4, I measure an inch and three quarters." Then I might ask for a discount commensurate with the actual size of the wood.

Purchasing Wood

Be wary of purchasing wood slabs from Marketplace or online from random suppliers; if you do this, make sure to bring a moisture meter to check that the wood has properly dried. Also, familiarize yourself with what the signs of bugs look like. This is something you definitely want to avoid when sourcing wood. If you already have wood with signs of bugs or high moisture levels, don't worry; you can bring it into a professional wood processing workshop and have it kiln dried to kill off any bugs and reduce the moisture.

Moisture and Layout

Moisture

Though most wood slab suppliers will provide you with an up-to-date, accurate moisture reading for the slab of wood you are purchasing, it's always worth checking the wood personally. It's even wise to check the wood in multiple locations to ensure that the moisture is at an appropriate level. There's nothing more disheartening than completing a table build only to discover that the level of moisture in the wood is too high. High-end moisture meters providethe most accurate readings, but can be quite expensive. If you aren't able to afford a high-end moisture meter; most wood suppliers will let you borrow theirs to check your slabs firsthand.

People always ask me what exactly the moisture level of their slab should be. The answer varies by region and time of year. Generally summer time in Western Oregon I look for 8-11%. However, the same slab that measured 10% in the summer, can be 15% in the winter time sitting in my semi-climate controlled shop.

The driest climates like Colorado and Arizona, wood should be around 6%. The most humid, maybe 12-15%. The main thing you want to ensure is that you don't have a pocket of moisture that is 20% or more. If your whole slab is 8-9% and there is one spot that is 12%. That isn't a deal breaker. You want to check for those excessively high spots.

Where and How to Check a Slab for Moisture

When checking wood for moisture, it is imperative to scan the slab thoroughly. To do this I use a pinless moisture meter. Run your moisture meter along the entirety of the wood's surface, allowing the meter to provide readings in as many places as possible. Some of the wettest areas will typically live within the sections of vertical grain on slabs, or where you might see yellow streaks in a wood like walnut.

Project Layout

The visualization of a project is a key component to realizing an end product. To help you visualize your project's final state, start by building a template. Don't place an undue amount of pressure on the quality of your template; just make sure the inside of the template is the same size as your table in its final form, or just a bit larger (I build mine 1-2" wider and longer than my finished table size). To accomplish this, use any scrap wood that you have lying around the house or see about grabbing some from your local hardware store. When planning your table's design, make sure to avoid placing any straight wood edges within portions of epoxy rivers. Example: A river portion of epoxy will work to highlight anything within it, so something like a straight cut will stand out and look unnatural. Remember, a natural river has no perfectly straight sections.

Templating and Dimensions

Trial And Error For Templating

When planning your table, take things into account like the amount of epoxy you will need, how that much epoxy will look, how your pieces of wood interact with each other in certain configurations, how the wood grain is composed, and ultimately, if you like the table design. Spend as much time as you need doing this because once you've settled on a design and started creating it, it is much more difficult to backtrack. Turn your slab of wood to test out different configurations, using the template you've built to visualize the epoxy and wood interaction. Don't be afraid to try layouts that might feel strange; new layouts might surprise you, might suit your epoxy budget, and might be exactly what you are looking for. The more time you spend building tables, the more you will discover exactly what you are looking for in your layouts; design is always subjective.

Planing And Thickness

Try to keep the wood as thick as you can before applying epoxy and surfacing it down. Within reason anyway, you don't want a rough slab rocking in your form. Consider having your wood supplier skip plane your slabs—a light pass of the wood to ensure it is flat enough that it won't rock in the frame—before the epoxy work begins. For a dining table I recommend working with a minimum of two inch-thick wood, or "8 quarter" to begin with. 6/4 minimum for a desk or medium sized coffee table. This allows for some leeway when you begin flattening or planing the wood. If you begin with a thinner piece of wood, it can create problems when attempting to flatten the wood later. Wood will always move and adjust, even after it has been treated and kiln-dried. The best way to mitigate this is to keep any wood you're working with in a temperature-controlled environment. Don't leave your wood slabs outside, and try to maintain a temperature of 60° to 70° Fahrenheit wherever you are storing your wood. Some ideal final measurements for thickness are: 1 ¾-2.25" for a dining table or 1.25-1.75 for a desk or larger coffee tables. I have made small tables as thin as ¾".

Width And Length Of Table

For your template, make sure to leave yourself a little bit of leeway when working with the length and width of your table design. It is wise to make your template a little bit larger than the desired size of the table. If your table is meant to be 96" x 48", make the frame 98" x 50", giving yourself an extra inch to work with on each of the four sides. These buffering zones arethe last line of defense against building a table that ends up being smaller than you'd like or tighter in the frame.

Chalking

With your templated slabs of wood starting to take shape and your final product beginning to be visualizable, use some chalk to outline pieces of wood as they pertain to the table design. This will help to maintain the exact layout and positioning of the table template and to help you mark where you will need to make your cuts. Think of this step as if you are outlining the puzzle pieces that will make up your table by using the square or rectangular template outline. To leave a buffering zone for cutting, make marks with the chalk on the inside and outside of the wooden frame. After completing this step, no matter how many separate pieces of wood you are planning to use for your table, they will be marked and ready to be cut.

Cutting Your Table Slabs

The initial cuts do not need to be laser-straight, as the table will be cut again once everything is connected by epoxy and in its final form. This means you do not need an expensive track saw, but can accomplish these rough cuts with almost any circular saw or jigsaw.

Cleaning Your Slabs

It is ideal to remove every bit of bark attached to your slab of wood. To remove bark, ensure that you are thorough, removing every strand of fibrous soft wood that will make contact with the epoxy, from the edges of the table to any little knots containing bark.

For the best result, begin with an old chisel, removing any large, obvious sections of bark, then use an angle grinder or impact driver with a soft brush attachment to remove the finer bark from your live edge wood.

Choose the hardness of the brush based on the type of epoxy you are going to be using. If you are working with dark epoxy, it is okay to use a more aggressive stainless steel brush because the epoxy will conceal a rougher edge, but if you are using a crystal clear epoxy, make sure to use a brush that will allow for a gentler result, reducing visible damage.

For some table builds, it can be beneficial to use a hard nylon brush to avoid metal altogether. It's very helpful to have an array of brush sizes and shapes in order to remove all of the bark. Dirt and debris must also be removed: Use any tools necessary, from brush attachments to dental picks to get into the cracks and crevasses within your wood slabs. There will often be small portions of bark and dirt that cannot be reached. Try not to lose sleep over this; just do the best you can. Keep in mind that this early-stage process is one of the dirtiest in table making; use eye, respiratory, and ear protection to mitigate the risk of injury.

Creating Your Form

Epoxy molds are used to house your tabletop and the epoxy as it sets. Constructing these molds properly is very important, as a poorly built mold can allow epoxy to leak, costing you time and money. Although you can buy prefabricated molds, they are expensive, so unless you are planning on building a bulk order of tables, it is wise to build one yourself.

The best material for mold construction is melamine: a particle board with a thin layer of plastic on its exterior. This, along with the use of mold-release spray, will allow the boards to tear away from the epoxy once it has set. To build the mold, begin with a large flat sheet of melamine and a corresponding piece for each of its four sides. Ensure that the sides are about 4" tall to give ample room for epoxy pouring, and make sure there is an extra inch of length on each of the four sides (to adjust for the ¾” thick melamine). Use fast-drying caulk (silicone tends to work too well and is difficult to remove later) underneath, on the inside, and on the outside of each side board to connect them to the main flat sheet. Ensure to connect the sides to the top of the large sheet (not the edges) to reduce the risk of leaking or to help locate a leak at a later stage.

Epoxy Needed

Next, I use an 18 gauge brad nailer to assemble the mold. Screws are generally overkill, but not a bad idea nonetheless. In the spirit of overkill, I will then caulk the outside seam of the melamine with more caulk. Finally, but maybe most importantly, use a mold release product on your mold so that the epoxy will not stick to it once it has settled. Be careful to keep any wood away from your general vicinity when using the mold release, as it will make anything it comes into contact with slick.

Amount Of Epoxy Needed

Begin by marking a measurement at every 5" interval along the lengths of river portions in your table (the portions your epoxy will be filling). These measurements do not need to be in increments of exactly 5"; However, the more measurements you take, the more accurate your calculation will be.
Next, measure the width of the river at each marked section (the space between the two slabs), then use chalk to mark down each width measurement. To find the average width: add all of the numeric values together and divide them by the number of measurements taken. For example: 3 + 1.5 + 2 + 1 = 7 ÷ 4 = 1.75, meaning the average width is 1.75".

Next, measure the depth at the thinnest part of the slab (2" in this case) and the entire length along the river (20"). If the slab of wood you are working with has an underside that varies from the top, it is wise to flip each piece of wood over to repeat the process, using the average width from both sides to determine the volume. In this case, the first average width was 1.75" and the second was 3". Add the two together and divide by 2 (1.75 + 3 ÷ 2= 2.37) to find a total average width of 2.37".

Finally, multiply the length, by the width, by the height (20 x 2.37 x 2 = 94.8) to find a volume of 94.8 cubic inches, or 1.558 liters. To make this calculation, head to blacktailstudio.com/ epoxy calculator to use the tool we've built for this specific purpose. Now, it's time to calculate the volume of the epoxy that will seep around the outside of the wood as well as underneath it. To determine the amount that will leak underneath the slab: measure the length and width of the inside of the mold and the thickness of the epoxy that will likely fill the space under the slab: 21 x 11 x 0.125 = 0.473 liters

Next, determine the amount of epoxy that will surround the table in the mold. First, determine the perimeter of the mold: 21"x 2 + 11" x 2 = 64"; then multiply that length by the width between the wood and the mold (0.125") and by the depth, or thickest part of the slab (2") : 64 x 0.125 x 2 = 0.26 liters. To find the total volume of epoxy needed, add each liter's value together: 1.55 + 0.47 + 0.26 = 2.28 liters. Now you know exactly how much epoxy you will need to build this table.

Sealing Your Slabs

When it comes to deciding whether or not to seal the edges of your slabs, there are a few factors worth taking into consideration.

Pros

When working with darker epoxies, something that can potentially ruin a project is unwanted staining. Staining happens when a dark epoxy seeps into the edges of the wood, dyeing it and causing portions of your project to be unfixable. If working with dark epoxy, seal your wood first to avoid this.
Bubbles are entirely common when working with epoxy, and an unsealed slab lends itself to a much higher risk of bubbles forming. Outgassing, something that occurs during epoxy pours, refers to the release of trapped gas within a material. Choosing to seal your edges before pouring your epoxy is a great way to mitigate the presence of bubbles.

Cons

The argument is often made that by sealing your live edge wood, you run the risk of preventing a stronger bond between the wood and the epoxy. This is valid: without the epoxy connectingstraight to the raw wood, there will be a weaker bond. Albeit, minimally weaker. However, there are ways to seal your live edge wood and still get the full "raw wood" bond.

Method

Use the same epoxy that will be used for the deep pour sections (minus any of the dye) to seal the table. The entire table should be sealed to reduce the risk of the wood twisting, bowing, or producing bubbles. Epoxy will not bond well with other sealing products like shellac; in fact, shellac repels epoxy. After clear epoxy has been painted onto the slab of wood, it should set for 12–18 hours until it is tacky. This will allow the seal to stop any colored epoxy from staining the wood while remaining sticky enough to form a powerful chemical bond with the poured epoxy. A chemical bond is much stronger than a mechanical bond. Note: extra soft or porous areas might require multiple coats of epoxy to prevent staining. If for any reason your epoxy cures before you are ready to pour (the epoxy is no longer tacky), do not worry. Just scuff your edges lightly to ensure a good mechanical bond. I have poured many “mechanical bond” tables and have never had an edge separate.

Mix

It is crucial to mix your epoxy thoroughly; it can truly make or break a project. When using 2:1 epoxy: the ratio is important, but nothing outweighs the need to properly mix yourepoxy, so do this tirelessly. Note: Unmixed epoxy is one of the only mistakes there is no fixing.

Different Woods

For softer woods, be mindful of the amount and type of epoxy you are using to seal the wood. If you are working with wood that is naturally soft or has rot, consider applying more layers of sealing epoxy or using a tabletop epoxy. Though you may reduce the chance for a chemical bond, it is ultimately more detrimental for your table to be vulnerable to stains.

Apply The Seal

Using a roller for the top and bottom of the slab or a brush for the edges and cracks, apply a thin layer of epoxy to the table top. If your slab has hard-to-reach areas, you can use compressed air to help force epoxy into them. Keep an eye out for bristles, as they will need to be picked out of the epoxy if they fall off. Rubber gloves and painters plastic are essential during this process to avoid a world of displeasure.

Setting

Depending on the epoxy you are using, as well as the temp of your shop, allow your epoxy to set for an amount of time that will allow it to form a seal without fully hardening. Approximately 12–18 hours for an epoxy like Liquid Glass.

Epoxy Volume: Extra

When calculating your epoxy volume, make sure to factor in an extra amount of epoxy for sealing purposes. Roughly 1-2 liters, depending on the size of your project.

Leveling The Form

Now that the epoxy seal has set for roughly 12 hours on the slab, ensure that your mold has been prepped with mold release and that you have clamped the pieces of your slab in place. Clamping the wood in place ensures that nothing shifts or floats as you work to pour and set your epoxy. Use something like Tyvek tape on small blocks of wood to act as a buffer between the clamp and the slabs. Raise your mold using 2x4s to increase airflow and greatly accelerate your setting time, but ensure that your mold is perfectly level by using shims or playing cards.

Bonus Tip

Bonus Tip: Backup Project

Underestimating the amount of epoxy you need for a project can be extremely frustrating and can mean an uncompleted order, but overestimating the amount you need can be equally disappointing. To circumvent the disappointment of having too much epoxy, it's never a bad idea to have a backup project in mind: something small that you can complete with left-over wood and your excess product. Example: A serving board can be an excellent way to use up any odd pieces of wood and to ensure you aren't wasting expensive epoxy. Once you've begun the process of building a large table, have some extra wood ready to go for your secondary project, just in case.

Choosing Colors

To suit your preferences, there are endless color possibilities for your epoxy table, but the two different coloring methods are: powdered pigments and liquid dyes. Powdered pigments: Less likely to seep into difficult areas or stain your natural wood, powdered pigments stay closer to the surface than other dyes and highlight natural movement within your table. Liquid dyes: Powerful, boasting consistent, solid colors with little to no highlighted movement.

Dyes

For powdered or liquid dyes: mix a ratio of water and the dye to find your desired depth and tone before mixing any dye into your epoxy. In search of your desired color, you can blend multiple dyes to experiment with what looks perfect for your project. Note: not all epoxy dyes are soluble in water.
Example: Adding a pearl white powdered dye to any dark dye creates a glistening shimmer. Have fun with this portion of the process, and don't be afraid to keep a handful of color palettes on hand. Remember to be conscious of which colors will help to highlight the natural wood you are working with and which colors might clash. When mixing dyes in a large bucket, use a small clear cup comparable in depth to
your table; this will allow you to accurately check the hue of your color, as in large quantities the dyes always look darker. To
match color: keep track of the exact amount of dye you insert into the epoxy so that if you need to make more, you won't have to estimate.

Mixing Epoxy

Mixing Epoxy

Combine your part A and part B epoxies, following the proper ratios for the brand, and then add your dye. Be certain that you are meticulous in your mixing process, making sure to scrape every single portion of the bucket as you work. This step is crucial, and you can not overdo It. Ideal room temperature around 60 °F (15.6 °C). But we rarely get ideal conditions. I have poured as low as 45F and as high as 85F. Use a combination of a submerged paddle mixer and a stir stick to mix your epoxy until you can't see any separation between epoxies and dyes. Whenever you add more epoxy to your mixing bucket, follow the measurement ratio guidelines for your part A and part B epoxies. Once your epoxy has been properly mixed, let it sit for about 20 minutes to allow any bubbles to rise to the surface. Then you can burst these bubbles using a blowtorch.

Pouring Epoxy

Gently pour your epoxy into your mold until it is flush with the top of your slabs, and use a blowtorch and a brush to remove any residual bubbles from the tops and sides of the epoxy rivers. If you have an especially deep river to fill (over 2.5"), you should pour multiple layers, allowing layers of 1"–1.5" so that it sets long enough to get tacky before adding the next layer.

When working with powdered pigment, it is best to avoid multiple layers of pouring to help reduce visible layer lines. Be vigilant about any leaks in your mold, as missing them can mean losing a lot of product. If you do find leaks, Flex Paste is a fantastic product that works quickly and effectively to stop active leaks. As your epoxy is setting, lightly use a fan to reduce the heat being created by the epoxy. Leave this fan overnight. Note: pouring too much epoxy at once can and will create an exothermic reaction that will destroy your project. I recommend not pouring over 1.5" on your first project. That said, under ideal conditions I have poured as much as 3".

Monitoring The Pour

Check your epoxy with a temperature gun to make sure it is under 100 °F Anything hotter than 130 °F presents a risk of table failure, epoxy cracking, or other detriments, so if this happens to you, use multiple fans or anything else at your disposal to bring the temperature back down. Once the epoxy has been setting for about 10 hours, you can use any small tools to manipulate it, creating signature patterns within the flowing epoxy.

Stir gently; be careful not to fold the epoxy or create bubbles, and don't stir once the epoxy begins to hold. Use a propane torch and a hair dryer or heat gun to quickly remove any bubbles on the table's surface. Finally, allow the epoxy to cure for at least 2–3 weeks.Note: many manufactures advertise shorter cure times. But I strongly recommend waiting those 2-3 weeks.

Removing Your Table From The Mold

Wearing safety glasses, use a wooden mallet, working from side to side, to break the sides of the mold away from the table. If the mold release works properly, the sides should break away without strenuous effort. Watch out for brad nails or sharp epoxy. To remove the bottom of the mold, gently use a pry bar and small wooden wedges to separate the table from the melamine. Before planing your table, use a small orbital sander to remove any residual mold release, as its greasy demeanor can interfere with the planing process.

Check The Cure

A simple way to test the integrity of your epoxy is to poke it with a small plastic knife. Though the knife will be able to lightly scratch the epoxy, it shouldn't be able to indent it. If it does, the epoxy needs more time to set. Let it set for another week, or keep it somewhere warm to help it set. If none of these tricks work, you may have unmixed epoxy and will have to scrape it out and add properly mixed epoxy.

Flattening Your Table

Here are the three main flattening methods, ranked best to worst. Planer/ wide belt sander: Highest quality finish in the least amount of time. Dependent on the size of your table, these can be hard to find. If you have access to an industrial shop: use it. To find an industrial shop near you check makerbook.io to find a shop that rents out it's equipment and time.

CNC: Most CNC are fully capable of flattening an epoxy table, though it is important to make sure the operator has experience working with epoxy tables. CNC machines allow you to flatten extremely large tables, but the result is often more aggressive than a wide belt sander, leaving more visible markings. CNC is also more expensive and takes much longer than other methods.

Router sled: A versatile tool that can accommodate any size of table. However, using one of these is the messiest and roughest option for the table itself. If you don't have access to an industrial planer, wide belt sander, or CNC machine; a router sled will be your best option.
Whichever option you choose, make sure your table is perfectly flattened before moving onto the next step.

Squaring

The best way to make your table perfectly squared is to use a track saw to remove the rough edges of the table. If you do not have access to a track saw: use clamps and a straight edge of wood to guide a circular saw along the edge. For small pieces, you can also carefully use a table saw for this step.

Touch-Ups

After planing your tabletop, it is very common to find imperfections such as tiny holes or gouges in the surface. To fix these deformities: use a fast-drying table top epoxy and a smallpaint brush to fill the tiny holes, then use a blowtorch to remove any bubbles. *Table Top epoxy will dry within 2-3 hours, but let it rest for about 24 hours to be safe* Once it has cured,carefully use a fine sander and a carbide scraper to remove the excess table top epoxy. To tackle any remaining micro-imperfections: use CA glue and activation spray to quickly fill minuscule holes.

Sanding

Whichever method you choose to use to level your table: any machine will leave behind some form of undesirable lines on your tabletop. Use an orbital sander, with a fine patterned paper such as the 3M Xtract, to get rid of any visible lines on all sides of the wood. For a noticeable difference: it's worth investing in a high-end orbital sander. Make sure you don't hover in one place for too long, keep your sander moving consistently across the whole table. The amount you sand your tabletop depends on the type of finish you are using. For something like the Rubio Monocoat finish, no matter how high of a grit count you use, micro scratches will be present. But if sanded properly they are incredibly minuscule. If you want a truly clear epoxy table, you need a film-type finish. Such as a varnish, poly, or table top epoxy.

Grit

I use the following grits: 120, 150, 180. If I want a matte Rubio finish I stop there. If I want a satin or semigloss Rubio finish, I continue sanding with 240, 320, up to 400. In between at least one stage of sanding I wet the entire piece with water and let it air dry. Making sure to remove the raised grain on the next grit. Note: you can only sand higher than 180 if you are using N3 Nano on top of Rubio. For a film-type finish I use the same grits up to 320 grit.

Lightly using a pencil on the tabletop will allow you to track your progress, remembering where you left off. A studio or high powered light will also allow you to view your progress finely.

Rounding Your Edges

I prefer a classic ⅛" roundover bit for my edges most of the time. However this is your piece and you can use any profile you'd like. Note: a 22.5 degree chamfer bit on the bottom is one of my favorite alternative profiles for a nice modern look.

Attaching Table Legs

Although you can apply the first coat of finish to your table before you attach the legs, it is advisable to attach the legs before you do any finishing. This is due to the fact that during the leg attachment process, it is quite likely that you will create some minor scuffs on your table, something that can be remedied by a finish later on. I recommend steel threaded inserts for attaching my table legs. Brass or zinc inserts tend to strip out, and wood screws directly into the slab do not look or function as well as threaded inserts. Note: I avoid putting inserts into epoxy if I can help it. However, if there is no other option drill your hole slightly larger and add a dab of epoxy to the insert.

Method

Using threaded inserts is a fantastic way to mitigate the risks caused by drilling straight into your table. They also add a clean and professional aspect to the attachment of the legs and ensure that you'll have no issues if you ever need to take the table apart to move it or refinish it. Try to avoid inserting the threaded inserts into sections of the table that are purely epoxy, as this could create cracks or could be visible from the top of the table. Using a drill bit or a center-punch and a small hammer, lightly tap through the leg holes to mark your drill points. The threaded insert hardware you are using will have manufacturer instructions indicating what the appropriate size of drill bit to use is. Use a stop collar to control your depth and be vigilant about checking the width of your table and the length of your bit before beginning to drill. Make sure to leave a healthy amount of room between the end of the hole and the surface of the table. It does not hurt to leave a margin for error. After drilling your holes, use a countersink (if you have one) to create a small chamfer. This reduces the risk of chipping. Manual T-handle wrenches are a great tool to use for the insertion of threaded inserts, as they allow you to move at a safe pace without the force of a power drill. Use furniture bolts to secure your table legs and be mindful of how much you tighten your bolts. To allow for wood movement, leave the bolts just 'snug'.

Choosing A Steel Table Base

Most of the choices surrounding table bases are entirely subjective, but one thing to keep in mind is the holes for the hardware. When choosing table base parts it is wise to seek out slotted holes. These holes allow for some liberty in regards to the wood's movement, something that will happen seasonally over time. It is also worth noting that if you have transparent epoxy you might not want a base where you can see the mounting plate through the epoxy. This is just a personal choice though.

Leg Placement

The placement of your table legs is entirely up to you, but keep in mind that for something like a larger dining table you'll want to leave an appropriate amount of space for seating on either end of the table. Give about 16-20" for this. Use something like a combination square to guarantee that your leg placement is perfectly symmetrical and equidistant from each side. For desks and coffee tables I will generally bring my legs out near the end of the slab.

Applying The Finish - 1st Coat

To ensure it is ready for finishing, clean the table top using compressed air or a wood cleaner. Mix the Rubio monocoat thoroughly, then use a polishing pad or a Bondo spreader to saturate one side of your table. Next, wipe down the finished side with blue shop towels before flipping the table over and repeating this process. Finally, add finish liberally to each of the table's edges, again wipe off all excess with blue shop towels. Note: you cant remove too much rubio with the blue shop rags, but you can leave too much on. Wipe off all excess.
Finish all of the sides at the same time: this will reduce the risk of bowing that uneven moisture can cause. Let the table cure for at least 24 hours.

Applying The Finish - 2nd Coat

It is not essential to add more than one coat of finish to your final table. However, if you notice that your table's finish is not consistent throughout, or perhaps is more of a matte color than you'd like; it is worth adding a second coat. Look at your table using different lighting methods to find small undesirable patterns that you may want to fix. When adding a second coat, it is important to note that you'll need to be mindful of unevenly finished areas, as failing to do so can result in a blotchy appearance. The ideal tool for this job is a Maroon Pad rated at 320-400 grit, used in conjunction with an orbital sander (on a low setting) to feather-out any uneven surfaces on the table. Once you have gently sanded the entire surface, clean the table using compressed air and shop towels. Finally, reapply a smaller amount of finish, using your desired application method. Again, wipe off all excess and wait 24 hours. Note: if you are still not happy with the finish you can sand and repeat the process.

Free Finishing Workshop

From sanding, to which finishes to use, to table care, there are so many intricacies involved in properly finishing your table. For a comprehensive look into exactly how to accomplish this, you can access the Free Finishing Workshop right here. This free, digestible 26 chapter course, outlines each step involved in table finishing and care.

N3 Nano Finish

Unlike typical finish; nano finish provides an added layer of protection that works to defend your wood against anything it might come into contact with after initial finish has been applied. Spilling beer, hot sauce, or any number of substances on your table can cause frustrating damage, but with the use of a high-caliber product like the n3 nano finish; your table will be well protected. The n3 Nano Finish combines top end diamond-hard protection with universal compatibility to protect against acidic food and drinks and UV rays. The n3 Nano Finishing Kit comes with a hard coat, a top coat, applicator blocks, a buffing towel, gloves, and an instruction manual. If you are interested in this added protection, you can order your comprehensive n3 Nano Finishing kit here.

Application Of Nano Finish

The n3 application method is incredibly fast and simple. But there are some specific steps you need to follow to ensure it is done correctly. To ensure proper application, watch the complete n3 application guide video for free here.

Table Care and Maintenance

Table Care And Maintenance

If you finish your table with n3, it will be incredibly durable. Drinks, food, even chemicals will not have much of an impact on your piece. That said, heavy duty cleaners do more to damage than good, which is why I avoid them altogether and primarily use water to clean. I also recommend a monthly treatment of the n3 maintenance spray to keep it looking like the day you finished it.

For Regular Spills Or Stains

Use a dry or damp microfiber towel to remove anything that has spilled on your table. If the microfibre towel is not enough, you can use a liquid wax cleaner, rated for your table and wood, from any reputable source. Sometimes a ring or water spot will be caused by a reaction with the finish. Giving it ample time to dry can often remedy this (24-48 hours sometimes).

For Stuck On Food

Don't leave food on your table to dry, but if you do, use water to soften it and a microfiber towel to remove it.

For More Serious Wear And Tear, Or Scratches

Tables naturally experience a lot of wear, but you can combat this by following the initial finishing steps to refinish your table and restore its former beauty. You can completely refinish your table in place if you need to. From sanding to the rubio to the n3. The table never needs to leave the dining room if you don't want it to. Note: an application of n3 top coat every 12-24 months is a nice insurance policy against wear and tear.

What Not To Place On An Epoxy Table

Avoid putting anything that is extremely hot on the table, as it could damage the epoxy. For hot pans, place something between the table and the metal. The rule is generally, if you can hold it, you can place it on the table.

Epoxy Cleanup

Epoxy Cleanup

You can clean your epoxy buckets by hitting them with a small mallet until the dried epoxy comes out as one large piece, picking the rest of the small bits out with your fingers. Leaving a mixing stick in your epoxy before it dries will allow you to pry it out later on as you work the bucket with your mallet. I have found compressed air to be the best way to clean cured epoxy from a bucket.

Congratulations!

We encourage you to share your work with us by using the hashtag #Epoxyworkshop or by tagging @Blacktailstudio on Instagram or Facebook.

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