



RiverCast Big Pour Casting Resin

Description:

RiverCast is a clear epoxy system designed specially for woodworking casting applications. It produces ultra-clear casts with minimal bubble entrapment. Use RiverCast to make beautiful river tables or to fill large inclusions in wood substrates.

Features:

- Fill voids up to 1.5" thick in a single pour
- Flexible
- Deaerates rapidly
- Contains no VOC's
- Easy 2:1 mix ratio
- Tintable with System Three Cast FX Colorants

Directions for Use:

How Much RiverCast For The Job

Measure the length (L) x the average width (W) x depth (D).

$L \times W \times D = \text{total cubic inches}$. From the total cubic inches see which RiverCast kit meets your needs. It's advisable to pad your estimate by 10% to ensure that enough material is available.

RiverCast kit sizes	Cubic Inches
1.5 Gallon Kit	346
7.5 Gallon Kit	1,732
15 Gallon Kit	3,464

Working Conditions:

RiverCast performs best when the ambient conditions are between 70-80°F. Acclimate the wood substrate and the RiverCast Epoxy 24 hours before use. Cool conditions below the recommended temperature range will cause RiverCast to not only cure significantly slower, but the likelihood of entrapping microbubbles is more likely in the finished product. Whereas higher than the recommended temperatures will cause RiverCast to cure too rapidly resulting in possible warpage or discoloration.

Note:

In the winter months, RiverCast may be exposed to very low temperatures during transit. In some cases, the Part A can turn cloudy from the exposure to cold temperatures. If the Part A is cloudy, it will need to reconstitute the material. Heat the Part A only in a water bath at approximately 120°-130°F throughout. Once the Part A returns to a clear state, no further heating is necessary. Allow the material to return to room temperature before beginning your project.

Building a Form:

When fabricating a river table or when filling large inclusions that go through the entire slab, it's necessary to build a framework to contain the epoxy. Plastic sheet goods or smooth, rigid plywood covered with clear packing tape work well for constructing a non-stick form.

In most instances, large slabs are not perfectly flat. The form material when mated against the wood slab may have intermittent gapping along its length. Gaps can be closed by drilling pilot holes through the non-stick material. Use screws that easily pass through the pilot for maximum effectiveness. Once the form is complete, use a carpenter's level to level the slab in both directions.

Sealing:

Mix a small batch of RiverCast Epoxy. Using a disposable, natural bristle brush, apply a thin coat of the epoxy to the walls of the void. After 10-15 minutes, brush on another thin coat of RiverCast. Make sure that the interface between the non-stick material and the wood substrate are coated with RiverCast. This creates a seal, preventing the RiverCast from leaking once the large pour is undertaken. Allow the seal coat to cure overnight.

Note: Pre-sealing the walls of the void prevents large air bubbles from forming in the epoxy. After curing overnight, the seal coat will likely be tacky. The RiverCast can be poured over the tacky seal coat without issue.

Before filling the void with RiverCast, inspect the seam between the wood substrate and the non-stick material for gaps.

Measuring And Mixing:

Measure 2 parts Resin (Part A) with 1 part Hardener (Part B) into a clean graduated mixing container. RiverCast can be mixed efficiently with a drill and paddle mixer. Avoid spinning the drill up at too high a speed, as this will introduce excessive air to the mixture. It's advisable to also use a paint stick to scrape the sides and bottom occasionally as you mix. Carefully scrape the sides and bottom to prevent unmixed material from spoiling the cast. Unmixed material will not harden sufficiently and remain soft.

You know you're getting close to fully mixed when the mixture has turned from cloudy to clear. Once it's clear, RiverCast generally requires a bit more mixing to fully incorporate the components. After you've mixed a batch, double check to make sure that there is no thick buildup on the sides or the bottom of the container. See mix time chart below.

Mix Time For Drill And Paddle Mixing	
1 Gallon	3-5 Minutes
2 Gallon	4-6 Minutes
3 Gallons	6-8 Minutes

Mix Time For Hand Mixing	
1/4 Gallon	3-5 Minutes
1/2 Gallon	3-5 Minutes
1 Gallon	4-6 Minutes

Note:

For batches larger than 1 gallon, use a drill and paddle mixer. The Jiffy mixer brand is an excellent choice for mixing larger batches of RiverCast. This mixer is available on the System Three website or

most paint stores. A complementary paddle mixer is included with the purchase of a 7.5 or 15 gallon kits of RiverCast.

Adding Colorants And Effects Pigments:

RiverCast Epoxy can be tinted with System Three Cast FX Colorants. These colorants are designed specifically for use in System Three RiverCast and MirrorCast epoxy casting resins. Unlike most colorants, Cast FX chemically cures with the epoxy resin. See Cast FX Colorants product sheet for details.

Additionally, pearlescent effects pigments can be added as well. Do keep in mind that some testing may be necessary beforehand. Low density particles will perform best, as they will stay suspended during the slow cure of RiverCast. Heavier pigments can sink out of suspension resulting in a large concentration at the bottom of the cast.

Filling:

When filling a void, pour RiverCast just to the surface. If multiply batches were mixed, use a paint stick to gently merge them together in the void. Allow it to settle for 5-10 minutes. Then slowly add more material, slightly overfilling. The RiverCast should be domed and proud of the surface. Use only the material that freely pours from the container. Wipe up any epoxy that has spilled out onto the surface, as thin films take extended periods of time to cure.

Within the first 30 minutes check the fill level. If the RiverCast has dropped below the surface, carefully refill to a slightly overfilled level. Additional pours can be done once RiverCast has cured overnight. No sanding is required between pours within 72 hours. After 72 hours, lightly sand with 220 grit sandpaper before adding more RiverCast.

Note:

The surface of RiverCast will initially be filled with bubbles from the mixing process. These bubbles will dissipate within 4-6 hours. Also of note is the surface in this timeframe will have a skin-like appearance. This too will dissipate within 4-6 hours.

If constructing a river table, it's best to keep the slab contained within the form for a full 7 days. In the early days of cure, the epoxy is underdeveloped and could possible warp or bend if not fully supported. Keeping the slab supported and contained as it cures greatly minimizes potential unwanted movement of the wood slab/epoxy.

Casting resins are designed to cure very slowly. This design feature allows the end-user to pour large volumes of epoxy without experiencing a runaway exothermic reaction. Because of this slow cure, it can take RiverCast multiply days to harden.

Surface Preparation For Finishing

Best results are achieved by allowing RiverCast 7 days to fully cure before sanding and finishing. Sand RiverCast with a hard-sanding block and 120-150 grit sandpaper to flatten the surface to the surrounding wood substrate. A cabinet scraper can also be implemented. Once the epoxy surface is flat with the surrounding substrate, use an orbital or random orbital sander. Sand the wood substrate, blending into the epoxy filled area. Over sanding RiverCast can dish the surface. Occasionally, check the top with a straight edge to gauge progress. Further sanding is dictated by the type of protective finish coating selected. You will note that the RiverCast surface will lose its

clarity after sanding. However, once a protective coating is applied, depth and clarity will return. See sanding recommendations below for the appropriate grit selection prior to applying the top coat. Be sure to follow with the correct grit sequence. Skipping grits can result in scratches showing through the top coat.

MirrorCoat and other System Three Epoxies – Sand to 150 grit

Polyurethane- Sand to 220-320 grit

Lacquer- Sand to 320-400 grit

Oil finishes- Sand to 400-600 grit

Top Coats:

Most coatings are compatible with RiverCast. Pretest to ensure that expectations are met. RiverCast can be used in conjunction with all System Three Epoxies and top coats. Like most epoxies, RiverCast is suitable for exterior application, but a quality UV top coat is needed to protect from sun exposure. See System Three Clear Finishing of Outdoor Wood for more details.

Physical Properties:	Resin	Hardener
Viscosity @ 77°F (25°C) cps	1,200 – 1,300	17 – 20
Density	9.34	8.01
Color	Colorless	Colorless
VOC Content	0	0
Mixed Viscosity (at room temp) cps 260 – 290		