

## MirrorCast Void and Crack Filler

### Description:

MirrorCast is a clear epoxy casting resin designed to fill knots, cracks and voids in wood substrates with minimal shrinkage. Use MirrorCast to fill voids prior to finishing wood components. MirrorCast can also be tinted with System Three Epoxy pigment dispersions. When cured, MirrorCast can be sanded, shaped or drilled.

### Recommended Uses:

- Filling medium to large size knots
- Filling large cracks and checks in wood slabs
- Filling inclusions in wood slabs
- Decorative wood art

### Directions for Use:

#### Sealing

Wood holds a considerable amount of air within its grain structure. Before filling any void, pre-sealing the void substrate with a thin coat of MirrorCast is essential to avoid excess bubble formation. Voids which go through the entire slab will first need to be plugged. This can be done with either packing tape, duct tape, or plastic sheet goods.

Apply MirrorCast using a small disposable brush. A thin, even coat yields best results. After 10-15 minutes, apply a second thin seal coat. If plugging a void, brush a thin layer of MirrorCast around the base of the void, where the wood and plugging material meet. This prevents MirrorCast from leaking through when later filling the void. Some voids such as narrow cracks cannot be sealed using a brush. In cases like this, pour MirrorCast along the exposed edges. Pour enough to lightly coat the side/sides. Allow an overnight cure of the seal coat.

Note: The seal coat will remain tacky, even after an overnight cure. Full hardness development of the seal coat is not necessary before beginning the filling phase of the project. Remove plugging material after MirrorCast has cured 72 hours.

#### Mixing

See Use Chart for calculating the appropriate pour depth and repour times for MirrorCast. These recommendations are a guideline for obtaining maximum clarity and lightest color.

Mix by volume two parts Resin (Part A) to one-part Hardener (Part B). Pour Part B on top of Part A into the same container. Vigorously hand-mix the material from the bottom to the top. Scrape the

sides of the container as well as the mixing stick. Mix until the composition turns from cloudy to clear. Overmixing will result in excess bubbles.

## Filling

MirrorCast performs best when the ambient conditions are between 70-80°F. Acclimate the wood and the MirrorCast 24 hours before use. Cool conditions will cause MirrorCast to thicken and trap excess bubbles in the epoxy.

The top surface must be flat and free from unevenness. Surfaces that are rough sawn or uneven will prevent MirrorCast from filling to full capacity. Make sure that the wood slab is level before filling. Verify with carpenter's level.

MirrorCast is best suited for filling voids that are contained on all sides. Multiple layers can be built up without showing pour lines. Voids that are exposed to the outside edge have some limiting factors to consider. Smaller voids that meet the perimeters outlined in the Use Chart can be completed in a single pour. However, larger voids may require more than a single pour. When multiple pours are done, a noticeable pour line will be visible when viewed from the side of the finished piece.

When filling a void, pour MirrorCast just to the surface. Allow MirrorCast to settle for 5-10 minutes. Then slowly add more material, slightly overfilling. The MirrorCast should be domed and proud from the surface of the wood slab. Avoid over filling the void, where MirrorCast spills out onto the surface. Thin films of MirrorCast take extended periods of time to cure. Carefully wipe up any material that is on the slab surface. Within the first 30 minutes check the fill level. If the MirrorCast has dropped below the surface, carefully refill to a slightly overfilled level.

**Note:** Micro bubbles can be encapsulated within the cured epoxy cast. In most cases the micro bubbles are not visible, nor do they affect the final clarity.

No sanding is required between pours within 72 hours. After 72 hours lightly sand the surface. Use a vacuum or clean compressed shop air to remove sanding dust.

## Use Chart

Note: Knots, cracks, and inclusions come in very random shapes and sizes. Utilize the Use Chart recommendations to approximate the number of fills necessary to fill the void.

Void Diameter	1"	2"	2.5"	3"	4"	5"	6"	7"	7.5"
Min. Pour Depth	1"	½"	½"	½"	½"	½"	½"	½"	½"
Max. Pour Depth	3"	2.5"	2"	2"	1.25"	1.25"	1"	.75"	.75"

<b>Repour Time At Max. Pour Depth</b>	14 Hours	12 Hours	12 Hours	12 Hours	10 Hours				
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### Surface Preparation For Finishing

Best results are achieved allowing MirrorCast 7 days to fully cure before sanding and finishing. Sand MirrorCast with a hard-sanding block with 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 MirrorCast 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 MirrorCast 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 MirrorCast, but it's advisable to pretest to ensure that expectations are met. MirrorCast can be used in conjunction with all System Three Epoxies and top coats. Like most epoxies, MirrorCast can be used 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.

<https://www.systemthree.com/pages/clear-finishing-of-outdoor-wood>

### Typical Properties:

#### Properties Part A:

Viscosity: 750 CPS

Density: 9.48 Lbs./Gal.

Color: Colorless

#### Properties Part B:

Viscosity: 18.3 Sec. #2 Zahn

Density: 7.99 Lbs./Gal.

Color: Slight Amber

**Mixed Properties:**

Mix Ratio Volume: 2:1

Mix Ratio Weight: 100 Parts A - 41 Parts B

Working Time @ 70°F: 1 Hour

Full Cure: 7 Days

Application Temperature: 70-85°F

Clean Up Solvent: Denatured Alcohol

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