GlowingGecko
Photoluminescence - Excited By Light

How to... Glow Wood

Experimenting First

Individual preferences for glow vary so it's important you test cast before you apply to your final piece.

The Environment

An SDS (Safety Data Sheet) for strontium aluminate (glow in the dark powder) will be sent with your powder. Although the Glow in the Dark Powder is ridiculously safe, the mediums used to mix it in may not be. Always follow the instructions on the packaging of any other substance you are using.

Personal Protective Equipment

Working with resin requires gloves, dust mask, and protective eyewear at a minimum, especially when sanding it down.

Equipment/Supply

Gloves & Maks
Glow Powder
Clear casting resin of your choice.
Plastic vessel
Pop stick or plastic knife
Variety of wet/dry sand paper – this will depend on the condition of the wood to start with and the final effect you are after.
Clean soft cloth
Polish/Varnish of your choice

Prepare

Resin goes “off” or hardens within 5-10 mins, depending on the concentration you use. Make sure you are well prepared for the pour before you mix the resin.

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- Remove any loose matter from within the fissures of the wood. You may like to make the fissures wider, depending on the effect you are after.
- Sand down your piece of wood. You don’t need to go too fine on the sand as you’ll be following the resin cast with a good sanding anyway.
- Blow or brush off any debris from the surface of wood and from the fissures.

Applying Resin Steps

1. Apply painter’s tape to edges and/or under wood where you don’t want the resin to fill/flow. The tape can also provide a ‘lip’ around the edge of the piece if you don’t want the resin to flow over the edge.
2. Sit the piece of wood on some kind of stilt so the edges are raised. This will mean if there is overflow, it will drip off rather than accumulate under the piece.
3. Mix the powder and resin in plastic cup. Use the pop-stick or plastic stirrer. When combined, stir in the resin activator. You can combine the 2 part resin first and then stir in the powder as well. Doing it the first way might give you more time to play with.
    a. The usual ratio is around 30% powder to resin. This will vary greatly depending on the glow effect you are after. The more powder the brighter the glow but the cloudier the day-time appearance.
4. Powder will not stay suspended in the resin for long so ensure you stir just before pouring and in between pours.
5. Slowly pour the resin into all fissures ensuring there is a slight overfill (resin may shrink a little as it sets).
6. Inspect for bubbles. These can be removed by waving a heat gun or propane torch approximately 6inches above the resin.
7. Leave the resin to set for a minimum of 2 days before sanding, but ideally a week.

Sanding and Polishing Steps

1. Start with sanding up to 400 grit – begin with about 120 but you can go as low as 40 and progressively move through to 180, 250, 350, 400. Make sure you wipe debris off in between sanding.
2. From here you can progress one of two ways.
    a. Continue to sand using wet/dry sandpaper and add a small amount of water during each sanding process. Start with 800 then progress through 1200, 1800, 2000 and more depending on the effect you want.

    b. Before sanding with the finer grits, apply (with a sponge/foam brush) a coat of polyurethane clear varnish, allow to dry, sand with the first grit (800), wipe clean, and apply another coat of varnish. Repeat this process throughout the different grits of sandpaper.
3. Fine steel wool also works well when nearing the end of the sanding process.
4. Remember to wipe the surface clean of any debris in between sanding to prevent unwanted scratching.
5. If you want a high gloss finish, apply more coats of varnish with progressive sanding in between. A more matt finish will be obtained with less of this process.
6. There are a number of methods for finishing off. You can leave as is, apply around 8 coats of wood oil, or polish using fiberglass/car polish. Experimentation is the key here and if it ends up being not what you want, you can always sand again.

More information from another piece:

This is the amount of powder used for this piece.

And this is the amount of resin added to it – approximately a 1:3 ratio of powder to resin.

This ratio does create a bit of a cloudy day-time appearance. You could reduce the ratio if you do not like that.

I like to stir in the powder with the resin before adding the resin activator. This gives me more time to play with.

Make sure you use only wood and plastic utensils/vessels as metal will affect the glow of the powder.

After adding the activator, gently stir it in as per instructions.

Poor the resin into the gaps. I tend to over fill the gaps as the resin may shrink a little.

Don't fret though! This looks like a complete mess but will turn out great.

Resin tends to have air bubbles when poured. Wave a source of heat over the surface and they will pop. I use a long nosed lighter but you can use a butane torch or hairdryer set on low.

Leave the resin to properly set before sanding. I'd give it a good 48 hours at least but up to a week is best.

This piece has been sanded using the full range (40 right through to 1200). At this point there is no varnish or polish over the top but either could be used.

Or you could apply another coat of clear resin over the whole lot for a really glassy effect.