

The
GLASS PAINTER'S
Method

HOW TO MIX, TEST, STORE and
REVIVE
YOUR GLASS PAINT
with eight demonstrations



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First published in 2019 by The Hoplite Press



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3rd edition 2023

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Introduction



This guide will show you everything you need to know about mixing glass paint for traditional kiln-fired stained glass painting. It contains a lot of tips because we really want you to succeed. It goes into a lot of detail because how you mix your paint is essential to your success. Beautifully mixed glass paint is even more important than a good tracing brush—you can paint beautifully with a cheap brush (ours cost just a few pounds and last for several months of constant use) but not with bad paint: bad paint will always trip you up. *You* are rare: too many glass painters are in such a mad rush to trace or shade that they forget their paint itself is unforgiving. And therefore we are thrilled for you—thrilled you're willing to take the time to learn to mix your glass paint the proper way. Here are the main skills that you're about to learn.

How to mix your glass paint

You'll learn how to mix a perfect lump of paint and you'll get really comfortable with the process. We'll show you the ingredients, the proportions, the tools, the recipe we use. After you've practised the technique a few times, it only takes about 10 minutes to mix a perfect lump of glass paint, but these 10 minutes will make the world of difference to how you paint stained glass.

How to test your glass paint

In case you're wondering how you *know* you've mixed your paint the way it needs to be, we've also got that covered. You'll see the consistency of paint that you should aim for. You'll also learn how to test your paint. Testing is important, because testing gives you confidence that your paint is as it should be: once you've proved that to yourself, you can focus calmly on the work in front of you.

How to seal your glass paint

Later, when you finish working for the day, wouldn't it be nice if you knew how to leave everything a particular way so that, the next time you want to paint, you can start as soon as possible? Indeed, it would. That's why we'll make plenty of time to show you how to look after your paint before you say "good night" to it, how to seal your paint, and how to leave your palette so you can start quickly when you want to.

How to revive your glass paint

But what really happens the next time you want to paint? How do you freshen or wake up your paint? What do you need to do before you start tracing, flooding or whatever? In this guide you'll see how to revive your paint, whether the last time you used it was yesterday and your paint's still moist, or whether your paint is years old and as hard as an ancient rock.

Why this matters

Beautiful, happy glass painting is a combination of three things:

1. Tools
2. Skill, and
3. Paint.

Tools you buy. You just need to know what to look for and where to go.

Skill takes whatever time it takes to acquire. There are few short cuts here. Tracing, strengthening flooding, shading, highlighting—these are demanding techniques to master. We all need discipline and focus, and lots of time to practise.

And glass paint—glass paint you must *mix yourself*. Unlike tools, you can't buy glass paint ready-mixed and off-the-shelf. You can't squeeze it from a tube. You can't spoon it from a tub. You can't pour it from a bottle. You must mix it yourself. You must also revive it and keep it in good shape.

This guide is all about your paint. We want you to solve this problem and tick it off your list of things to-do.

This guide will teach you how to mix, test, store and revive great glass paint. This will leave you free to focus on tools and skill. The fewer things there are for you to worry about, the faster you'll improve.

Save yourself months of frustration: as soon as you can, invest a *day* in learning how to mix great paint.

List of videos and links

The demonstrations are distributed throughout this guide. To help you find a particular one more easily, here's a list with direct links.

[The consistency of paint you want to aim for](#)

[How to mix a lump of glass paint](#)

[How gum Arabic can thicken your runny paint](#)

[How to inspect and freshen your glass paint the next day](#)

[How to test your glass paint](#)

[How to revive your glass paint](#)

[How to revive an ancient, dried-out lump of paint](#)

[How to mix a small amount of glass paint](#)

The consistency of paint you want to aim for



We'll start with a video of what your paint should look like when you're about to paint with it.

We filmed this video one Monday morning around midday. The week before, we'd used this lump of paint all week (so if you think it's big now, in fact it's already smaller than it was when we first mixed it), then sealed it up for the weekend.

Come Monday morning, we got to the studio at 8, revived the lump—e.g. mixed in a bit more water, and massaged it a little (you'll learn about this later)—sealed it up again, then got on with other work like cutting glass.

So what you're seeing in this video is a lump of paint which we'd revived a few hours earlier.

The consistency of paint you want to aim for

By midday, when we'd finished our preparatory chores, the paint has had a chance to settle down. It's now a beautiful consistency to work with. It holds its shape, but it's also moist enough to stay fresh for several hours. And it's easy to cut off slices whenever we need more paint to work with. Now this is one of the chief benefits of working with working with what we unglamorously call a "lump" of glass paint: when you mix the quantity of paint we suggest you do, it not only stays fresh for longer, but also, when you need a different consistency, or a different density of colour, you simply cut off a slice, add water, mix, then start to paint again. We'll return to this topic later on.

For now, when you watch the video, just remember that this is not a lump we made five minutes earlier. The point is to show you close-up what we suggest you aim for *when you're painting*, because that's what you'll be aiming for.

One last point: it won't matter if your lump is sometimes a bit stiffer, sometimes a bit wetter than what you see here. Even for us, each lump, every different time we work with it, is always slightly different. But you need to see this one particular example so you can begin to form a rough idea of what you're aiming for.

Please click the link and watch the video [here](#).

How to mix a lump of glass paint



Now you've seen what our working paint looks like, we'll show you how we make it. This is how we mix a lump of glass paint which could last us a week or longer when we're painting every day.

And really this section and the next could be called:

"You'll be amazed how LITTLE water you need ..."

You see, the big secret to mixing perfect glass paint is: spend a lot of time mixing in the liquid that's already there. We think you'll be astonished.

We'll take you through the detail later on. For now, in summary, in this recipe we use:

- Three heaped teaspoonfuls of black paint
- One heaped teaspoonful of brown paint
- One teaspoonful of water

How to mix a lump of glass paint

- Just under a teaspoonful of gum Arabic.

Then a bit more water which we add very, *very* gradually.

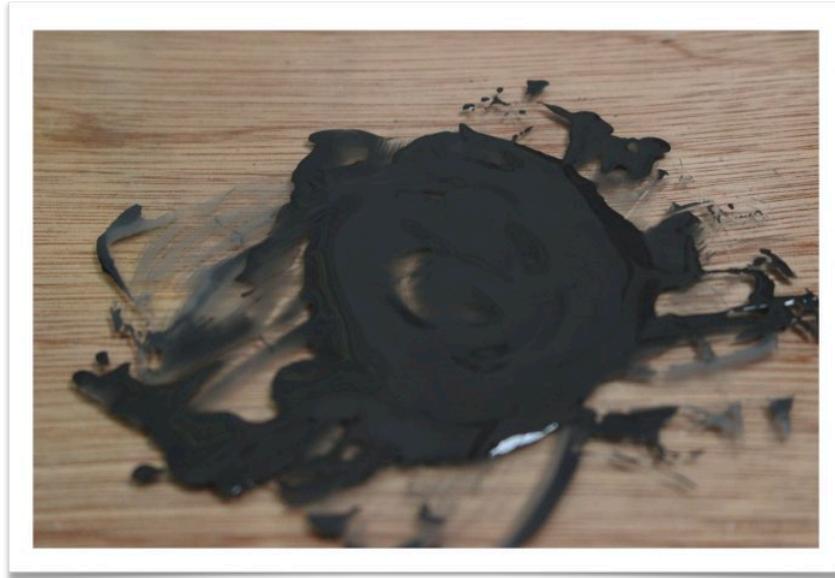
The reason we add water very, *very* gradually is, we want to set you a good example for the first two or three times that you mix your own paint. Once you know what you're doing, you can speed up and mix your paint in half the time.

While you watch the video, make notes as you watch it if you wish to. Be assured however that in the next section we'll itemise the individual steps so that you have a checklist.

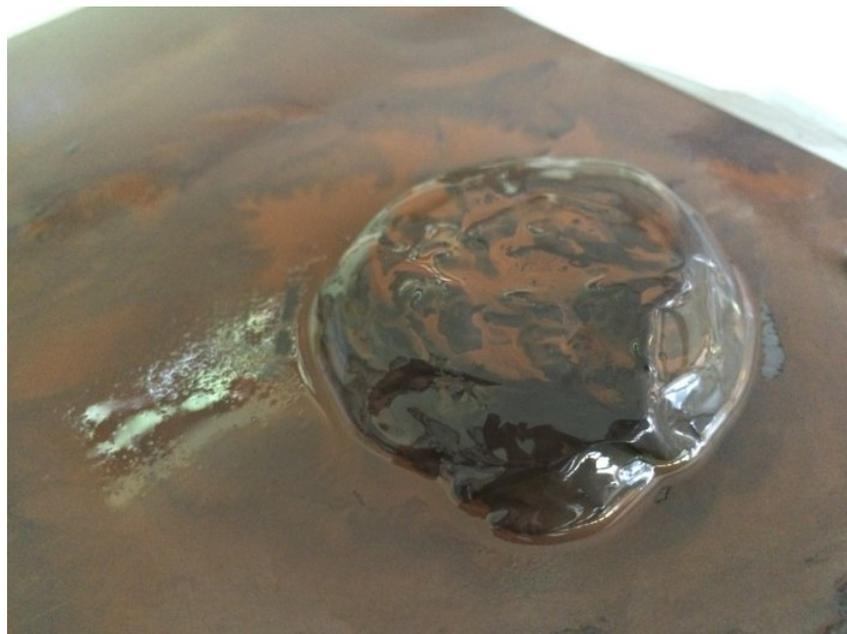
Watch the video [here](#).

Why mix a lump of glass paint?

What's wrong with mixing just a teaspoonful—a small amount? After all, most books say just to measure out a small quantity of glass paint, add water and gum and stir, then start to paint. Here's what we mean by a small amount:



And here's what we mean by a lump of glass paint:



Why mix a lump of glass paint?

The way we see it, there are four big problems when you mix a small amount of glass paint:

1. It dries out quickly on your palette
2. You can change easily from tracing paint to flooding paint to undercoating paint or whatever
3. Your supply can run out just when you're in the middle of tracing or flooding or shading, so you must stop what you're doing and mix more paint, which interrupts your work
4. You can't be sure your new batch will be the same ratio of glass paint to water to gum Arabic, so it might feel different to paint with, and, after the interruption of mixing fresh paint, it could also fire differently.

Whereas a lump of glass paint—water, gum Arabic and vitreous enamel like Reusche's tracing black and brown—solves these four big problems:

1. A lump is better at retaining moisture, so it only dries out slowly
2. It's quick and easy to change from one kind of paint—a particular darkness or a particular consistency—to another
3. Whenever you need more, you just cut another slice from the lump, dilute it with a little water, and you're ready—quick and easy
4. You can be confident each slice is like the one before it. That is, you get to know your paint. Your paint is dependable, it's predictable.

Mixing a lump solves other problems also, but these four are enough for now.

Instructions to mix a lump of glass paint

Here's a run-through so that you can deepen your understand of the sequence.

Allowing 15 to 20 minutes to mix your paint and tidy up—with practise, you'll learn to mix paint in half the time— here's what you do:

1. Get everything together on your workbench.
2. Measure the paint into the bowl. Here, four heaped teaspoonfuls in all: we use three of black and one of brown. Then make a well in it.
3. Add some water to the well. Be sure to add too little - here, a teaspoonful.
4. Add the liquid gum Arabic. Here, a little under a teaspoonful.
5. Gradually mix dry and wet ingredients together.
6. After a minute or so, once everything's a horrible mess, use your large spoon to push and press and pulverise and squeeze together the paint and liquid: you want to make everything as damp as possible, because that's how you distribute the liquid evenly. Do this for several minutes. You might even work up a sweat or feel a burn in your hands and wrists. It's hard work as glass painting goes.
7. If you need to, add more water a few drops at a time. You must be cautious although, if it's hot where you are, you can't be over-cautious or else the water will evaporate as quickly as you add it.
8. Each time you add more water, use your large spoon to push and press and pulverise and squeeze the paint.
9. From time to time, use your knife to clean your spoon.
10. When clumps begin to form, transfer the paint to your palette.
11. Now use the knife to slice and turn and press and squeeze the paint.
12. If you need more water, wet your knife—this is a good way to add a little water to your paint—then shake off the excess, and continue to slice and turn and press and squeeze.
13. You're aiming for a paste. It can be creamy like mayonnaise or stiff like builder's putty, or somewhere in between.
14. Use your knife to form the paint into a lump.
15. Wet your knife, shake off the excess water, and smooth the lump.

Instructions to mix a lump of glass paint

16. Moisten your hake brush with water and shake off excess water, then paint a damp circle around the lump.
17. Also wet the flat lip of your small glass pot.
18. Cover your paint with the small pot.
19. Use your hake to run around the pot's outside edge.
20. Place the larger pot on top. (There's no point in sealing it unless it's flat-lipped like the small pot.)

And that's your paint sealed the way you should *always* seal it when you finish painting for the day. With just a few minutes' work at the end of a painting session, you will save yourself many multiples of time when you next want to start work.

The ingredients and tools you'll need to mix a lump of glass paint

Here's a checklist of what you'll need:

- Glass paint
- Liquid gum Arabic
- Water in a jam jar or bowl
- Teaspoon
- Dessert spoon
- Clear glass bowl
- Palette knives
- Palette
- Small glass pot
- Large "Ron Ranson" Hake brush
- Cloth in case of spills.

Now for more detail.

Glass paint

At Williams & Byrne, we use glass paint made by Reusche / Schilling. If you decide to use a different brand of paint, you certainly can, but it might behave differently from the paint we use, and we can't help you if you meet problems.

We don't generally use tracing black on its own. We usually add a small quantity of brown.

One reason is that, on our palette, the black and brown will slowly separate: this reminds us to re-mix our paint and bring it back to peak condition.

The ingredients and tools you'll need to mix a lump of glass paint

Also, black and brown together are gentler on your eyes against the light box: pure black just gives you shades of grey, whereas a mix of black and brown results in warm and lovely shades.

We make our general purpose lump from Reusche's Tracing Black (DE401) and Tracing Brown #1 (1134). The black is widely available; the brown, less so. If you can't get Tracing Brown #1, then Umber Brown (1139) or Bistre Brown (DE402) are also excellent.

These are lead-based glass paints. Their lead-free counterparts are excellent, just creamier. Use them if you wish to. You'll find them in the Reusche / Schilling catalogue.

Water

Ordinary tap water is fine. If you have any concerns about your water (e.g. you aren't on mains / public water), use bottled water.

Gum Arabic



Liquid gum Arabic by Winsor & Newton

We use gum Arabic made by Winsor & Newton. You can buy it from art stores (it's used by water-colour painters) or on the internet. If you possibly can, use this same brand of gum Arabic. If you can't, please remember that your gum will probably be a different strength from ours. Weaker? Stronger? You'll have to test it for yourself.

Gum Arabic plays two roles:

- It's a glue, and
- It's a coagulant.

These roles are so important that we'll say more about them right now.

Glue

If your paint doesn't contain any gum Arabic at all, it will remain fragile until you fire it. The problem is that accidents can happen. You might spend 30 minutes or longer painting a single piece of glass, then brush it with your sleeve or drop your brush on top of it and wreck your work. But, when you use gum Arabic, your dry but still unfired paint is less vulnerable to accidental harm.

There are two more points we ask you to consider:

- With enough gum in your paint, you can shade your highlights. Watch the demonstration [here](#).
- With enough gum in your paint, you can paint several layers on top of one another, then fire your glass just once. This is what we often do at Williams & Byrne: it suits our style. See this long post [here](#).

Gum Arabic as coagulant

Another benefit of gum Arabic is, it thickens your paint. It's a coagulant. And because of this, it slows down the rate at which the water will evaporate—just a little, but it helps. This coagulating property also helps with tracing: it holds the paint together, making it easier to paint lines and curves. Your tracing will be less prone to water-marks—this is when a halo of water seeps out around your lines, which isn't pretty.

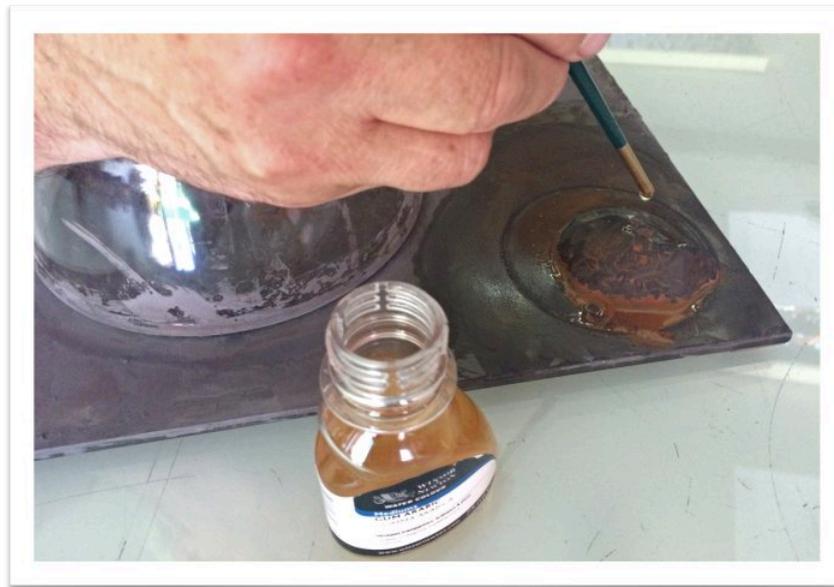
The ingredients and tools you'll need to mix a lump of glass paint

Strange but true: if your “lump” of glass paint won't hold together but loses its shape and spills and pours all over the palette, this sometimes means you don't have enough liquid—but the liquid you need more of is gum Arabic, whose coagulating powers can sometimes turn soup into mayonnaise, so to speak.

When you see this for yourself, you will hardly believe your eyes. It is true, however. For now, however, watch this demonstration [here](#).

Liquid gum, not powder

Why do we suggest you use liquid gum Arabic? Chiefly because it's easier to mix in. In the days and weeks ahead, because your paint (however careful you are) will dry out, you'll need to maintain it with extra water, which, slowly, will dilute its strength. With liquid gum, you can easily add a drop or two to restore your paint to the strength you want, like here:



It's easy to add a drop or two more gum Arabic

With powdered gum, it's a lot more complicated to spread it evenly throughout your paint. (You can certainly devise your own preparation of powdered gum Arabic which you dissolve in water for yourself. But then the potency of your solution may vary from batch to batch.)

The ingredients and tools you'll need to mix a lump of glass paint

Jar or bowl for water

The opening must be wide enough to easily take a large hake brush. It needs a solid base to make it stable.

Teaspoon and dessert spoon



Dessert spoon (top) and teaspoon

In the video we use a teaspoon for measuring, a dessert spoon to do the squashing and grinding which happens in the large glass bowl.

Large clear glass bowl

You use this bowl to mix your paint in. Later, you can use this same bowl to double-seal your paint which helps to keep it moist for the next time you come to work with it.

The ingredients and tools you'll need to mix a lump of glass paint

Palette knives



Sturdy palette knives

These must be strong and sturdy palette knives. Here's what we advise:

- The handle is about 3 inches long, 3/4 inch wide (75 mm long, 85 mm wide): solid enough for a good, firm grip.
- The blade is about 4 inches long and 1 inch wide. (100 mm long, 24 mm wide.) This is wide enough to crush and grind your paint. It is also long enough that you don't scrape your knuckles when you apply strong downward pressure. Yet the blade is still short enough for maximum efficiency.

A second knife will help you to scrape off paint and tidy up at the end of a painting session.

The ingredients and tools you'll need to mix a lump of glass paint

Palette



Palette with lump of glass paint and diluted paint for painting with

We recommend you use a piece of glass whose dimensions are at least the size of an A4 piece of paper—about 279 mm by 210 mm (8 1/2" by 11"). Or 300 mm by 300 mm (12" by 12").

Our point is: it's not small. You need the area to maintain your lump and mix the paint you work with.

4 mm thick is good. Use toughened or strengthened glass if possible. Bevelled around the edges if possible, so you can't cut yourself or harm your brushes. And sand-blasted on one side if possible: this is not to help with mixing (the sand-blasted side goes underneath), but because it makes a helpful contrast with your light-box.

The ingredients and tools you'll need to mix a lump of glass paint

Glass pot



You'll use this pot to seal your lump of paint when you're not using it.

It must be flat-lipped (not round) so that it has a enough surface to form a good seal with your palette.

Cloth and paper

To wipe up spills.

The ingredients and tools you'll need to mix a lump of glass paint

Large “Ron Ranson” hake brush



When mixing paint, you use this brush to moisten the lip of your glass pot so it sticks to your palette and seals your paint. Later on when painting, you use this brush to lay down washes, and also keep your palette in good order. The best brand is “Ron Ranson”. You need the large size. Please be sure to get this brand and size. It will last for many years.

How to inspect and freshen your glass paint the next day



When you're learning, it's helpful to mix your glass paint, seal it as you saw in the video, then let it rest overnight.

- One reason is, it gives your paint a chance to settle
- Another reason is that this is all new, and it calls for a lot of attention: there's no need for you to rush ahead and get tired. If you've made a good-looking lump of glass paint, that's enough for now: it's a good idea to take a break.

Your lump won't be the same as ours. Even *our* lumps of glass paint are different each time we make one. But here, so you see with your own eyes, are the kinds of things we do to freshen our paint, however it is, after it has rested overnight. These are *examples* of the kinds of things that you too will need to do, to freshen your paint and make it good for painting with.

The key point is, you investigate—you don't just make assumptions.

1. Look, listen, feel
2. Think about what you discover
3. Then act.

Watch the video [here](#).

Notes on the video

00:16 The black and brown have separated a little: this is normal. The lump itself looks good: still glistening.

00:20 Tap and cut it with your knife. What does it *sound* like? What does it *feel* like? Is it springy or is it hard? How easily does it cut? Does it move? Is it sticky or dry?

00:40 After the first observations, you can cut deeply into it, and start to freshen it: I can off slices, turn them over, then re-join them with the lump again. Always, rather than adding new moisture, I want to make best use of the moisture that is already there.

00:50 Notice how this seems a little crumbly: it has indeed dried out a bit. But that's not yet a good reason to jump in and add more water. (I can anyway mix in the wettish red-brown paint which lies around its edges.)

01:00 Quite stiff. But I believe this will be solved by a thorough mixing, squeezing, squashing, pressing.

01:25 You can see it's crumbly. But you can also see how, with squeezing and squashing it is already reviving into a paste.

02:20 Do you see the difference already?

02:55 Once again, the wet knife routine to add a few drops of extra moisture and smooth the surface of the lump.

How to inspect and freshen your glass paint the next day

03:45 This is what I like to do: give the lump something it will drink in its own time as the water seeps in.

04:10 Now I'm not going to test this paint right now—that's why I go through the usual steps to seal it. But if I had time right now, now's the point at which I would start my tests to see e.g. how much gum Arabic the paint contains.

04:20 Here I use my knife to revive the dried paint around the lump.

04:40 And I cut the lump, and insert that runny paint right into the heart of the lump. This revives the lump and tidies the palette at the same time.

05:05 Close the cut.

05:30 And seal the lump: I'll test it later on—there are other jobs I must first get on with in the studio this morning.

How to test your glass paint



So first of all you mix your glass paint. Then you let it rest. And then you find out what it's like: how much gum Arabic it contains, how smooth it is. You investigate and test: you see, even when you know exactly what you're doing, there'll always be small variations between one lump and the next. The point is, you have to become acquainted with *this* lump, the one you made yesterday—the one you want to use today.

Maybe it's perfect.

If so, that's wonderful.

But you always need to investigate and test it and make sure. Glass painting takes so much time: it isn't worth the risk involved in just "driving off" and using it. You always investigate and test it first.

You have three ingredients to consider, three variables: paint, water and gum Arabic.

If something isn't right, it's your job to choose and perform tests which give you the information you need to adjust the whole lump so you can work with it. You must experiment and decide whether it's the paint, the water or the gum Arabic you must adjust.

It's like finding out how someone is: you ask questions, you pay attention to what they show or tell you, and you respond.

It's different every time.

Here's how it was for that lump you watched us making earlier.

This video lasts 20 minutes. But the time we took was really 45—we've just cut out the obvious bits which you know already. But don't misinterpret the time it really took. Right now you're learning. When you know what you're doing, everything speeds up considerably.

Also, "perfect paint" isn't something abstract. It's actually a very definite and concrete quality: it's paint you can use with the brushes you have in order to paint the way you want to, today.

And if you're wondering what tests to make, always start from the techniques you intend to use today: if you want to trace and flood, then test the paint and make sure you can use it to trace and flood the way you want to.

That is, you find out if this paint, as it is, is fit for the purposes you have in mind.

Yes, if you're a beginner, this is difficult: you don't know how to paint yet, so how can you test it? What you do is, you learn how to paint an undercoat, and test it as we show you in the video. As you learn more techniques, e.g. tracing, strengthening, flooding, shading, so you'll also learn more tests.

Watch the video [here](#) and never mind it uses skills you haven't yet acquired—with a well-mixed *lump* of paint (rather than a teaspoonful), you'll learn them soon enough.

Our daily rhythm when we are painting

We've prepared this section to help you look ahead and see how the time you will spend glass painting is divided between caring for your glass paint on the one hand, and, on the other, using different brushes to apply this paint to glass. You see, mixing your lump is just the start of a long routine of looking after it, of caring for your paint in between the times that you are working with it.

Day 1: sometime on day 1, we make a new lump of paint. Then we seal it, leaving everything tidy, and do something else.

Day 2: on day 2, we investigate the lump: we see how shiny it looks, we prod it and hear the sound it makes, we push it or tap it and find out how easily it moves.

And perhaps you expect us to launch into a full re-mix straight away.

But our first task is usually to test the paint: before we change it, we want to fully understand its current state:

- Our tests allow us to learn how much gum Arabic is in the paint. We're sure now you can readily see how important this is. Gum Arabic is strong. You only need a little. But you need to get the right amount or else the paint will not behave the way you want it to.
- Our tests also give me time to wake up my brushes, adjust to working on a light box, and get used to working from a bridge again.

But the biggest benefit is:

- The testing gives us the time we need to reach an accurate understanding of how much extra water (if any) or gum the lump requires.

Just by working with it for 10 or however many minutes it is, we will revive my lump through natural use.

We must not be too quick to draw conclusions.

Just as, when we first mixed the paint, it seemed so dry—and yet the dryness completely disappeared with pressing and squeezing: so the new lump may first seem dry, yet simple agitation by my knife is all it needs. Until we've tried, we simply do not know.

And so, for maybe 15 or 30 minutes, we test the paint: we put it through its paces with thin lines, thick lines, light lights, dark lines, washes, blending, highlights—the kind of techniques we plan to use that day.

First we test, and then we adjust.

And then we start our proper painting.

And maybe an hour later, when we have worked my lump with real use (occasionally wetting its outside with a moistened knife: the water will seep in), we scrape all runny paint to the far side of the palette (well away from the lump), and only then do we set to on a full re-mix: slicing, turning, pressing, reassembling.

Now, strange as this activity may seem to start with, you'll soon learn for yourself what kind of actions will redistribute moisture evenly throughout the lump before you ever think of adding more.

And, when you do need more, it's generally better to add any spare runny “working” paint you have lying around on your palette: this is better than (neat) water—it mixes in more naturally.

Then we restore our lump's shape, smooth its outside surface, maybe cover it up, and carry on painting.

An hour or so before we plan to stop painting, we like to do a full re-mix: thorough enough for me to be sure that, provided we seal it well, our lump will keep its moisture overnight.

Then we'll paint some more.

Then we seal our lump and always leave everything tidy—it's such a nuisance to start with cleaning up a mess you left from last time.

Our daily rhythm when we are painting

Day 3, Day #4 etc.: on following days, we unseal our paint and, just like the day before, work for maybe 15 minutes on my light box. But now we already know the balance of gum and water is good, so we just focus on warming up.

And then we paint for real, the full re-mix coming later, just like the day before.

Towards the end: a full re-mix—always.

Then more painting.

At the end of the day: a quick re-mix, and then we seal it.

Do you remember why a full re-mix happens towards the end of the day and a quick re-mix or “freshen” at the actual end?

One reason is, at the very end of the day, we often have a lot other things to get on with. Another reason is, you don't want to accidentally make your lump too wet or else it can run all over the palette while you are sleeping and make a horrible dried-out mess: if you re-mix your paint well before the time when you must stop, you won't be madly rushed if things take longer than expected.

So make life easier for yourself: fully re-mix your paint a little bit early so you can finish work promptly and tidily and without rushing.

How to revive your glass paint

As you know now, when we start our day, we only do a “full” revival straight away if it’s absolutely necessary. What we prefer is, to freshen our paint as quickly as we can, and then start painting. Then mid-morning, we’ll do a full revival.

We have various reasons:

- It’s good to start work as soon as possible
- In fact we’ll refresh the lump simply by the act of painting. Yes, just in the natural way of working, we’ll add small amounts of water, push the lump around etc., which wakes it up. This means that later on, when we do our full revival, we won’t need to work so hard.

But this approach can only work if our paint’s in a fairly good condition:

- It looks shiny
- When we tap it, it makes a dull sound (not a brittle one)
- It moves a little when we push or press it.

So when you uncover your paint, your questions are, for instance:

- How does it look?
- How does it sound?
- How does it feel?
- And when you cut a slice, is it smooth or crumbly?

Technique

First of all, you find out what your lump is like right now. So you look at how shiny or dry it is. You tap it and hear how it sounds. You prod it and learn how it feels. Perhaps you cut a groove and see if it’s smooth or crumbly on the inside. All of these small, quick tests are useful because they give you a sense of what your paint is like right now.

Now you can begin. You wet your knife. You use the knife to wet the outside of your paint. If you need to, wet your knife again. And now you cut a slice from the side, lift it to the top, and push it down until it fuses with the lump. Move round and cut a slice from a different side, lift it to the top, push it down until it joins. And so on.

In this way, the outside (which you wetted at the start) is buried deep within—as also are the outside slices (all of which you wet by cutting them).

Remember: this works in England in *our* studio, but there'll likely be things you must do differently because your climate is not the same as ours.

Watch the video [here](#).

Notes on the video

00:00 What you see at the start is, a big bowl on top of my left-over tracing paint from yesterday. And a pot to protect my lump. Before the video started, I unsealed the pot to check this lump was good for filming: that's why I can lift it off so easily.

00:20 The lump looks shiny. When I tap it, it sounds dull (not brittle). And when I push, it moves.

00:30 The lump cuts smoothly. And it moves a little, which is good.

00:46 I wet my knife and wet the outside of the lump.

01:12 I cut a slice and push it down on top. (I didn't wet my knife again because I didn't need to. It's something each of us must judge.)

01:20 I move to a different side and cut another slice etc.

01:25 Carry on like this.

01:50 Here's where I decide I need to wet my knife again. The point is, I don't want to add so much water that my lump collapses. And so, as when you first mix your paint, you always add water bit by bit, then be patient while the water does its work.

How to revive your glass paint

02:04 Do you see how my wet knife wets the slice?

03:30 You've seen this tactic before: cut deep into the heart of the lump, add some water, then seal the lump together again.

04:00 And you've seen this tactic: I'm reviving dried paint. Then I'll add this (rather than water) to my lump. (This tidies my palette at the same time.)

04:30 More paint poured into the lump's heart.

04:55 And that's enough to keep me going for an hour. Next I would revive my tracing paint. And then I'd start painting—just the act of painting will help revive my paint so that, later on, I can do a “full” revive more quickly than if I did it now.

How to revive an ancient, dried-out lump of paint



But it won't always be that quick and simple to revive your paint. So now let's look at how you can revive a rock-hard, bone-dry lump of ancient glass paint. It happens to everyone some time—your paint dries out.

- Sometimes it's because you didn't seal it properly (tip: always seal your paint well)
- Or maybe you didn't revive it when you tidied up and finished painting for the day (tip: always freshen your paint before you say "good night" to it)
- Sometimes it's just because you didn't use the paint for many weeks, months or years.

What do you do?

Revive it slowly is what you do:

- Just like when someone's dehydrated and not had a drink for several days, you don't let them drink as much water as they want
- What you do is, you give them just a little water, then wait.

There are several ways to do this with a bone-dry lump of glass paint.

In *this* video, our method is, we give the lump a bit to drink, and then we leave it alone and let it soak for 30 minutes.

This way the water has time to sink in and spread. That's important. It means we're less likely to misjudge how much water this bone-dry lump requires to return it to a pliable, moist lump of perfect paint.

Watch the video [here](#).

Notes on the video

00:15 Tap the lump to see and hear how dry it is.

00:25 Moisten the hake and apply a film of water to the outside of the lump. Observe how quickly it soaks in: this gives you a clue to how dry the lump is. Fast means the lump is very dry (as here).

00:40 Keep feeding the lump with films of water.

00:55 Already you can see how the lump takes more time to absorb the water. This is good.

01:30 There's no way to speed this up. You need to see I must be patient.

02:00 Now I take my knife and explore the outer surface of the lump, where it's likely wettest.

02:10 I wet the knife and press down on the wounds I made. Incidentally, it still sounds dry to me. I'm feeling to see if there's any spring or movement yet. There isn't.

02:35 Here's a very important tactic. Cut thin slices from the side, and pile them one by one on top, pushing each one down and fusing it with the dried paint beneath. Cut a slice from one side, press it down on top, move round and cut a slice from somewhere else, press it down on top etc.

03:00 Always the key point is, to add as little water as possible. You want to restore the lump, not make a puddle.

03:30 I've gone as far as I can go right now. I choose to seal the lump and let it rest for 30 minutes.

04:00 After 30 minutes, it's more crumbly than before.

04:10 I decide to apply a film of water so I can observe if it soaks in at all.

04:20 I revive the dried paint elsewhere on the palette. Here—and this is important—you use the hake brush just to apply a film of water, not to mix it: your knife will do the mixing. And, because the paint is damp, there'll be as little dust as possible.

04:50 Now the reason I revive this dried up left-over paint is, I want to use it (rather than neat water) to revive my lump. You get the idea?

05:05 Now I start working on the lump again.

05:15 See how easily it slices now?

05:25 Once again, cut thin slices from the side, then pile them down on top. This way, what was on the top eventually sinks down to the bottom. And water is evenly spread throughout.

05:50 Nothing for it now but the complete disintegration of the dried up lump ... See how it crumbles? Well, I'll shortly gather all the clumps and crumbs together, just like I did when first making the lump.

06:00 This is all familiar to you know: use the knife to squash, squeeze and press so that the water which is there is evenly distributed throughout.

06:40 And see! It's starting to clump together now.

How to revive an ancient, dried-out lump of paint

07:40 Looking good. See how it's a thick paste again? (Not a puddle.)

07:45 The usual tactic: wet the knife, moisten the lump's exterior the same time as you leave it smooth.

08:10 And we're there: a lump re-born.

Is it wasteful to mix a lump?

Or is it a false economy to mix a *tiny* amount of glass paint? Now that you know as much as you do, here's a brief look at the main pros and cons of mixing a lump rather than a teaspoonful of glass paint (not that we don't sometimes mix a teaspoonful ourselves when that is literally all we need):

Pro-lump:

- Slower drying
- Less dust (health)
- Less waste, because less dust (money)
- A long-lasting supply
- Consistent for a week or longer
- Adaptable to variety of translucencies (light to dark) and consistencies (thin to thick and dry to wet).

Anti-lump:

- Requires frequent maintenance throughout a painting session
- Upfront cost (esp. when learning)
- Time to learn how to make well
- Time to care for the paint
- Time to learn how to seal it and how to revive it (with a small amount of paint, there aren't any left-overs)
- Time to test your paint.

If you're determined to learn to paint stained glass, mixing a large rather than a small quantity of glass paint will nearly always serve you well. That said, we don't want the quantity / expense involved to be a deal-breaker. In that spirit, therefore, and also because we sometimes do it ourselves, let's look at how to mix a small amount of glass paint.

How to mix a small amount of glass paint

If you've only got a small amount of paint for now, or if you'd prefer to "start small" and get a feel for the process before you mix a lump of paint like ours, [watch this video](#).

Health and safety

Dust

Working with a lump, your paint will dry more slowly than a teaspoon of paint. This is good, because there'll be less dust.

Another way to minimise dust is: don't attack dried paint with a dry knife. Instead, rub it gently with a wet knife until it softens. Or use a damp hake to lay down a film of water, wait a few moments for the water to dissolve the gum, then rub the paint gently with your knife.

Lead

The paint we use has lead in it, and lead is toxic. You must make your own choice about whether to use the same paint as we do or its lead-free version which Reusche / Schilling also makes.

Other ingredients

The manufacturer will state what the ingredients are and how you should protect yourself against contamination e.g. no food or drink nearby, wash your hands, don't rub your eyes, and protect any cuts or open skin.

Other media you can mix your paint with

In this guide, you've learned to work with paint, gum Arabic and *water*.

There are many other media you can mix your glass paint with e.g. various oils such as lavender, clove or tar: vinegar; propylene glycol: gold size and white spirits (mineral spirits): also proprietary media such as Reusche / Schilling's medium for painting: and many more.

We've begun with water because nearly everyone can get it: because water is traditional (although it's possible some ancient glass painters used beer or urine for instance): *and* because water is difficult but instructive—like learning to bake a cake from the individual ingredients as opposed to using a packet mix, or like learning to drive a car with clutch / stick as opposed to one with a automatic transmission. You must pay more attention. And, in the end, though it takes more time and demands more attention and skill of you, you'll acquire a level of understanding and control you wouldn't otherwise have.

Conclusion



We're glad that you invested in yourself by working through this guide. One thing we've noticed from the tens of books on glass painting that we've read: none of them gives enough attention to the crucial techniques which you've now learned—these books all deal with “how to mix your paint” in just a paragraph or two.

In that sense, *not one* of those books can ever teach the techniques which they claim they want to: if your paint is poorly mixed to start with, you won't be tracing long elegant lines or making lovely shadows, that's for sure.

But you—you have a huge advantage now. You now know what centuries of professional glass painters have known: how to mix, test, store and revive your glass paint. This is so important because beautiful tracing, strengthening, flooding and shading always start with great paint.

We wish you every success and happiness.

David 