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**LEARN HOW TO MAKE**

# Fused Glass

**A BEGINNERS GUIDE**

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# Welcome

We'll soon have you making your own fused glass!

Your Teacher is  
Emma FitzGerald



I began glassmaking in 2014 when my other hobby (making soap) turned into a job. I was fascinated by the colours and textures achievable in glasswork so I have been experimenting for a good few years. I look to nature for inspiration along with my love of all things mid-century and retro. I particularly enjoy creating texture with frit.

I have a background in science, achieving a BSc (Hons) in Genetics and a Masters Degree in Medical Laboratory Science from Queens University, Belfast. I was also awarded a Postgraduate Certificate in Science Education from University College, Worcester.

I founded Purple Herb Soap in 2010 which I closed in 2015. I now enjoy teaching Soapmaking and Fused Glassmaking to curious and resourceful individuals at the Hazelrock House Studio in Stirling, Scotland

I'm now here to help you to begin your journey into Fused Glass. Don't worry, I've got your back.

[www.hazelrockhouse.com](http://www.hazelrockhouse.com)

# Forms of Glass

Most kinds of glass can be fused in a kiln, but not all glass is created equal.

If we want to make artwork out of different colours of glass, we need to make sure that these glasses are compatible.

Glass expands and contracts when heated and cooled. If we want to fuse two pieces of glass together, we need to make sure that the two pieces will expand and contract at the same rate. If they don't, the glass will crack. This is called the coefficient of expansion of the glass. Generally speaking, if the two glasses have the same or very similar coefficient of expansion (CofE) then they can be fused together.

Glass that is sold for making art is tested to be compatible with other glass in its range. Eg Bullseye glass is CofE 90 and is compatible with other glass in the range. Spectrum Glass is CofE 96 and you can't mix it with Bullseye Glass and vice versa. Only with other Spectrum Glass that has been tested as compatible.

Glass Fusers tend to stick to one kind of glass as it solves any problems about glass getting mixed up with the wrong CofE. I use only Bullseye Glass in my studio.

You can fuse other kinds of glass in your kiln. Some glass artists use only recycled glass in their work. They either fuse it to itself or they use enamels for colour. Its an interesting thing to investigate, especially with so many beautifully coloured glass bottles available nowadays. Ordinary window glass can be used in this way as can tempered glass such as a shower door. Its up to your own imagination.

Now we can get to the fun part!

We talked earlier about the need to decide which CofE glass you will use. This might depend on your opinions of the colours of the glass available from certain manufacturers, how far you are away from individual glass suppliers or maybe you might be influenced by your teacher if you have taken some glass fusing lessons. It doesn't really matter which you choose so long as you stick to one CofE.

Each manufacturer makes glass in different forms.

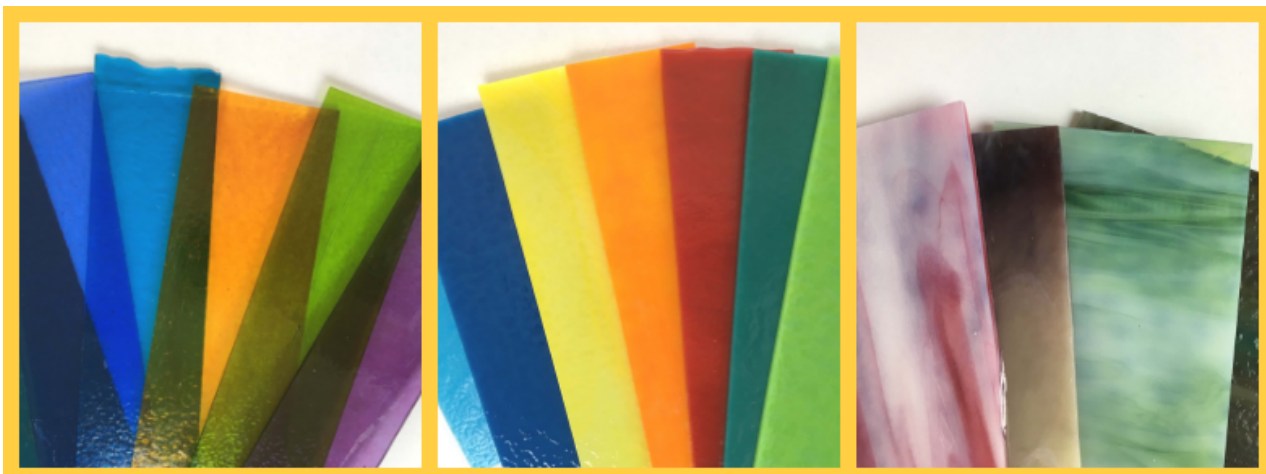
Clear glass is important because you will use this as a base for many pieces and to add on top of others. Make sure you have a good supply of this as you'll use it a lot.



Sheets of glass can come in different thicknesses. Which one you need depends on the type of project that you are making.

Glass sheets come in a rainbow of different colours. Transparent glass is glass that is completely clear. Opalescent glass is a solid colour and light cannot pass through. Some glass sheets are formed by mixtures of two or more colours.

This gives a streaky effect and is wonderful for using in projects.



Transparent Glass

Opalescent Glass

Streaky Glass

Glass also comes in rods which are mainly used to make beads but can be incorporated into any fused glass project.

Stringers are very fine rods that have been made in a vitrograph kiln. This kiln has an aperture at the bottom so glass can be pulled out under gravity. This makes very thin rods of glass which can be used very creatively.

Vitrograph stringers can also be made in many different shapes by curving and rolling them around a tube shape as they cool. I love these as they add all sorts of shapes to your work.



Glass Rods

Glass Stringers

Vitrograph Stringers

Confetti Glass is very fine glass that can be used to add colour and texture to your pieces. It is so thin that it can be fused easily between 2 pieces of glass. It comes in many different colours.

Frit is glass that has been crushed into tiny pieces. It comes in coarse, medium and fine grades. This is brilliant for adding texture to your work, especially if you are using a tack fuse. Glass can also be bought as a powder.

Millefiore are tiny round pieces of glass which often have a flower or other shape in them. They are formed in a similar way to stringers using a vitrograph kiln. They are a lovely way to add interest to your fused glass pieces.



Confetti Glass

Frit

Millefiore

Iridized glass has a petrol-like sheen on the surface and gives a very beautiful rainbow-like sheen to the surface. Only one side is coated this side should not be fused to the iridized side of another sheet.

Dichroic glass is glass that has been coated with a substance which gives a metallic shimmer. It comes on either black or clear glass and has a multitude of pattern or textures. It is much more expensive than coloured glass and for this reason many glass fusers just use Dichroic glass for small projects like jewellery.

So you see that there is no limit to the things you can create with this variety of forms of glass. Glass artists are finding new ways to use them every day so get your thinking cap on!

# Next Steps

If you would like to learn more about making fused glass, you can follow Hazelrock House on Facebook, Instagram, YouTube and Pinterest.

<https://www.facebook.com/hazelrockhouse/>

<https://www.instagram.com/hazelrockhouse/>

<https://www.youtube.com/channel/UCteKQq-fTcsWK2rr2h5Q17A>

<https://www.pinterest.ie/hazelrockhouse/>

I will be continuing to post helpful information on the blog. If you have subscribed to be a 'Housemate' I'll give you a shout when new posts and projects happen and a lot more besides.

If you are having trouble with anything that you have read about in this guide I would be happy to answer your questions. Just email me at [hazelrockhouse@gmail.com](mailto:hazelrockhouse@gmail.com) or post your question on the Facebook page.

I would encourage you to keep being curious about fused glass making. There is so much information out there but some is not reliable so please just ask if you need help.

Good luck with your fused glass journey. I hope I can serve you in your quest for knowledge!