Kiln carving

Kiln-carving is a simple kiln-forming process that you can use to create a relief, textured or sculpted look in your piece of glass.

You achieve this by cutting a pattern or design in ceramic fibre paper, stacking glass on top of the pattern and firing the piece in a kiln. During firing, the underside of the glass melts and conforms to the pattern of the fibre paper, assuming its contours and textures.

It's a technique that is very effective when used with plain clear glass, but by experimenting with this technique for coloured glass you can achieve some really wonderful effects.

If you are using system 96 fusing glass we recommend that you pre-fuse two pieces of glass together to create your 6mm blank, alternatively you can use 6mm float glass. You would then use a 6mm fibre paper to carve into, you can also use 3mm float glass with a 3mm fibre paper but the design won't be as detailed.

What changes are made in the process when using coloured glass?

Firstly, you will need to consider which parts of your designed will be achieved through kiln-carving and which parts will utilise colour. It's important to make these decisions and note them on your design before you start to carve into the fibre paper. Once your design is completely drawn out on the fibre paper you can lay your base glass on top and use the design as a template for your coloured glass.

You will need to make a 'blank' of the glass before it is slumped into the fibre paper mould, so that the glass is level and fused before it is fired into the slump. Once you have your blank, and you have carved your fibre paper it is ready to be slumped – which is most effective on a full fuse program.

When kiln-carving, it is recommended that you either cut areas all the way through the 6mm thickness, or build up the 6mm thickness to get a bold effect in combination with your colours. You can make partial cut-aways if you like, but often the subtly is lost when competing with colours.

As when using float glass, it's often the simplest designs that are most effective.

System 96 full fuse

Separate glass layers are completely cojoined into a single uniform layer.

Forming temp 780-800°C

Segment	Rate Celsius/hr	Temp	Hold time (hr:min)
1. Initial heat	222°C/hr	to 677°C	0:45
2. Rapid heat process soak	AFAP* or 9999°C/hr	to 796°C**	0:12
3. Rapid cool anneal soak	AFAP* or 9999°C/hr	to 510°C	1:30
4. Anneal cool	100°C/hr	to 427°C	0:10
5. Cool to room temp	AFAP* OR 9999°C/hr	to 40°C	0:00
6. END	-	-	-

*AFAP = as fast as possible, some controllers will not allow a rate of 9999°C /hr
** Will vary depending on desired result and kiln

This data is a guide only, firing programmes may need to be adjusted according to size and thickness of glass and the kiln's performance. Ensure that data is entered into the controller accurately, otherwise glass may not fuse correctly.