Kiln-forming glass

The Basics

Eighteen projects
Explained in detail
Kiln-forming brought to another level

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Contents

Temperatures, who knows?

Quite often, we see statements like 'the temperature for slumping is …', and then a specific temperature is given for basically all kiln-forming. How nice would it be if that was correct; one 'universal' temperature, one size fits all.
Unfortunately, that is NOT how it works.
What is meant by 'slumping'? Are we bending or draping something in or over a mould, or do we want to slump or sag glass through a mould that is not much more than fire-resistant material with a hole in it? These are different actions that will require different temperatures. Add to that the differences in kilns, the differences in size and thus weight that will require different amounts of heat and/or time, and it is evident that the 'one temperature approach' cannot work correctly. Therefore, one crucial objective of this book is very relevant when you want or need to downsize a particular project. We will explain how the size of a project - length, width and thickness - is a factor in choosing temperature and time.

Yes, as long as we form our pieces in a way that finally, each piece will be supported 'all over' (or should we say all under?) by a mould, one temperature can work for many different objects. We can fire several projects in one kiln-firing. Some pieces will 'hit' the mould sooner than others but provided the differences in size and shape are not enormous, and there is support from a mould, that's not a problem. We can bring the kiln to a temperature and keep a hold that will work for all the pieces.
But a fact is that when sizes and thicknesses differ, not all the pieces will bend or sag at the same temperature with the same holding time. When glass is not supported by a mould 'all over/under' it's us that must stop the movement in time. When that is, at what temperature and by how much heat-work, can only be determined by looking at the process.

Why don't they all take their shape at the same temperature?
To give a three-dimensional shape to a piece of glass, fused glass or not, we need to decrease the viscosity of the glass: 'weaken' it, so to speak. Go high enough in temperature and keep it there long enough, and the law of gravity will ensure that the glass's weight does the job. So, there you have it: temperature, time AND the weight of the glass are factors of importance. Different objects will have different weights and thus require different temperatures and time to keep them at that temperature.

Heat-work

You'll see the word come by more often in this book. So, what does it mean?
Giving shape to a piece of glass is not only a matter of increasing temperature. Sure, the higher the temperature, the easier / quicker the glass will change shape. But the same result can be achieved by using a lower temperature and giving the process more time. Applying more time to your project at a specific temperature will make you need less high temperature. A higher temperature means you'll need less time. The mix of time and temperature is what we call heat-work.
Don't forget that a kiln that goes up in temperature relatively slow will, while heating up, give more time to your piece than a fast kiln. More time means you'll need a lower temperature.

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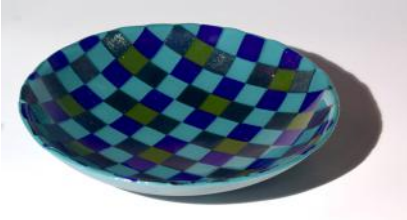

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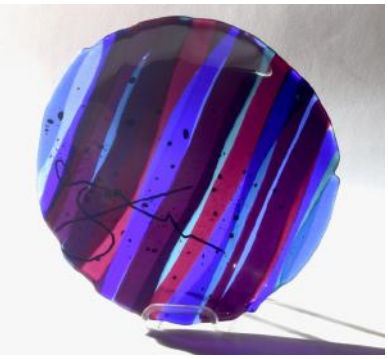

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