Make It: Linear Reaction

GLASS

Partial tube each:

- Turquoise Blue Stringer, 2 mm (001116-0272)
- Turquoise Blue Stringer, 1 mm (001116-0107)
- Clear Stringer, 2 mm (001101-0272)
- Clear Stringer, 1 mm (001101-0107)

2 sheets:

- Tekta, 3 mm, 10″ x 10″ (001100-0380-F)

1 sheet:

- Reactive Cloud Opal, 3 mm, 10″ × 10″ (000009-0030-F)
- Reactive Ice Clear, 3 mm, 10″ × 10″ (001009-0030-F)

TOOLS & SUPPLIES

- 3M Diamond Hand Lap 120 grit (7220)
- Basic glass cutting tools
- Bullseye Shelf Primer (8220)
- GlasTac (8234) or GlasTac Gel (8268)
- Small cups or blocks
- Square Slumper A 10.5" Mold (8634)

OPTIONAL

- Coldworking equipment / grinder / belt sander

HELPFUL RESOURCES

- Bullseye Reactive Glass
- Improve Your Glass Cutting
- Glass Cleaning Basics
- TipSheet 7: Platemaking
- Tips for Using Bullseye Slumping Molds

Articles can be found at *bullseyeglass.com*

How This Project Works

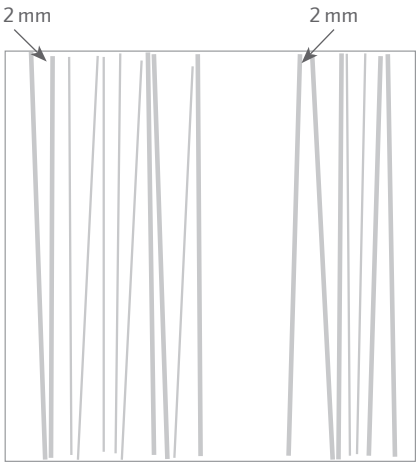
Clear stringers act as a barrier (or resist) between the reactive sheet glass and copper-bearing Turquoise stringers. Where a Turquoise stringer overlaps a Clear stringer, a Turquoise spot remains. Through the firings, the rest of the Turquoise stringers react and develop to a deep red. (More information on reactive glasses is available at bullseyeglass.com.)

This project produces two 9″ × 9″ (23 × 23 cm) finished plates—one using Reactive Ice Clear, the other using Reactive Cloud Opalescent—with stringers left over for future projects.

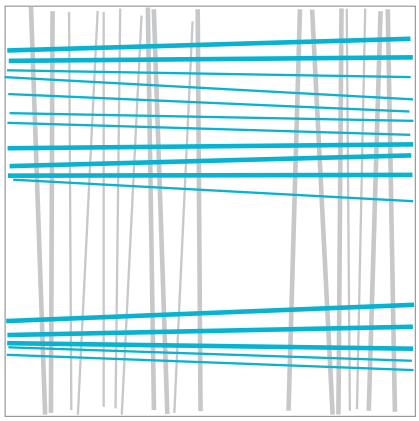
Prepare the Sheet Glass & Assemble the Layers

We'll start with the Reactive Ice Clear plate. You will repeat these steps with the Reactive Cloud Opalescent to make the other plate.

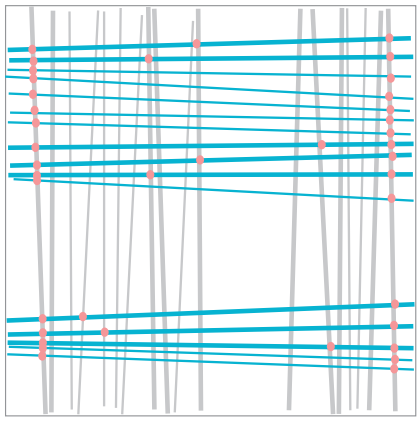
1. Cut the Reactive Ice Clear sheet glass to 9″ × 9″. Note that Reactive Ice Clear, viewed on edge, often has a blue-to-green tint. This tint will help you differentiate Reactive Ice Clear from non-reactive Clear. This knowledge is crucial in assembling this piece.
2. Cut Tekta Clear to 9″ × 9″.
3. Clean both sheets and place them on inverted cups or blocks (for easier handling). Place the Tekta first smooth side up, then cap with Reactive Ice Clear also smooth side up.



Step 4: Span the square with a single layer of Clear 1 and 2 mm stringers, starting and ending with 2 mm pieces.



Step 5: Span the square again with a single layer of Turquoise 1 and 2 mm stringers in the opposite direction, forming a grid.



Step 7: Apply beads of GlasTac to key intersections of 2 mm Clear and Turquoise.

Create the Design & Fuse

1. Cut several lengths of Clear 1 and 2 mm stringers to span the square and arrange them in a single layer. In the samples, stringers are placed in a loose zigzag design with a random arrangement of 1 and 2 mm thicknesses. It will be easier to place and balance the Turquoise stringers (step 3 below) if there are 2 mm Clear stringers towards the edges.
2. Use a small amount of GlasTac to hold the stringers in place. Tip: Handle stringer lengths from the middle (tweezers are helpful) and dip the ends in a small amount of GlasTac. Then set in place.
3. Cut several lengths of Turquoise 1 and 2 mm stringers to span the project. Gently place them across the Clear stringers in a perpendicular configuration to make an asymmetric grid—leaving bands of solid clear or white.
4. Using a short piece of 2 mm stringer as a tool, apply beads of GlasTac to key intersections of 2 mm Clear and Turquoise. Tip: Dip the tool-stringer into a cup of GlasTac and touch it to each Turquoise stringer where the GlasTac will flow and connect it to the Clear stringer underneath.
5. Allow the GlasTac to set, before transferring the piece to a prepared firing surface.
6. Program the kiln according to the Fuse Firing schedule below and fire the piece.

Slump Firing

1. Before slumping, remove any sharp points or edges with a wet diamond hand lap. Optional: Coldwork edges for a cleaner-looking edge.
2. Clean the pieces and load them onto primed slumping molds. Elevate the molds to promote even heating and cooling.
3. Program the kiln according to Slump Firing schedule and slump the pieces.

Future Projects

Explore other types of reactions with Reactive Cloud Opal and Reactive Ice Clear by working with Silver Foil (7217) and/or Copper Leaf (7511). More information on reactive glasses is available at *bullseyeglass.com*.

Suggested Firing Schedules

Fuse Firing

	RATE*	TEMPERATURE	HOLD
1	400°F (222°C)	1225°F (663°C)	:45
2	600°F (333°C)	1490°F (810°C)	:10
3	AFAP†	900°F (482°C)	1:00
4	100°F (56°C)	700°F (371°C)	:01
5	AFAP†	70°F (21°C)	:00

Slump Firing—mold (8634)

	RATE*	TEMPERATURE	HOLD
1	300°F (167°C)	1225°F (663°C)	:05
2	AFAP†	900°F (482°C)	1:00
3	100°F (56°C)	700°F (371°C)	:01
4	AFAP†	70°F (21°C)	:00

* Degrees per hour

† As fast as possible. Allow kiln to cool at its natural rate with the door closed.