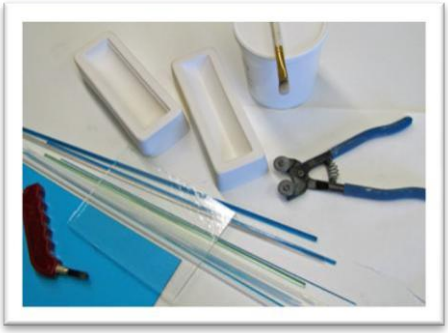
Angled and Rounded Pattern Bar Projects

Art Glass Supplies
Create Inspire Fuse

Materials Needed:
- GM79 Cylinder Dam
- GM80 Angle Dam
- ZYP/Suitable Glass Separator
- Thin Fire Paper
- Various fusible and compatible rods, stringers, noodles, and sheet glass
- Glass cutting tools
- Ring Saw or other suitable sturdy diamond-bladed cutting saw



Pattern bars can be made and then sliced to create mesmerizing repeating patterns. The GM79 Cylinder and GM80 Angle Dam Molds form round and square patterns that can be arranged in a wide variety of ways.

The particular project shown in this tutorial is a snowflake pattern formed from pieces cut from bars made in both molds. The same technique can be applied to other colors and types of glass, as long as all glass used is fusible and compatible.

Begin by coating the molds with a suitable glass separator. We typically use ZYP Boron Nitride spray. If you would like a video example of how we prime our molds, please click here.

After the molds are primed, cut two 6" x 3" strips of Thin Fire Paper, one for each mold. Line each mold with the paper and trim any edges that extend beyond the top of the mold cavity. The Thin Fire ensures a clean surface once the glass is fused and de-molded. Additionally, some opalescent glass can attach to glass separator when fired at the temperatures required for this project, so Thin Fire paper can help prevent any possible mishaps.

Once lined, fill the mold cavities with various 6" long strips of sheet glass, noodles, stringers, and/or rods, making sure all your glass is compatible. Double-thick Clear cut into ½" thick by 6" long strips works well to create clear areas within the pattern. The snowflake in this project was made using all COE96 glass, specifically sheets of Double-thick Clear and Sky Blue Transparent, as well as noodles, stringers, and rods of White Opal, Sky Blue Transparent, and Deep Aqua Transparent. The pieces were placed in the mold lengthwise, and the pattern was random (Image 2).

Continue to fill the mold so that the glass is piled in the center of the mold and extends slightly beyond the top, as seen in Image 3. This is necessary since as the glass melts during fusing, it will flow to fill any gaps between the pieces, so mounding it like this ensures a full cavity after fusing. Fire the glass using the suggested schedule in **Table 1**below*.

Before firing, we recommend checking our Firing Notes by clicking here to see if you need to alter our schedule to fit your kiln!

Table 1:

Segment	Rate	Temp (°F)	Hold
1	250	1360	20
2	250	1470	10
3	9999	950**	75
4	100	815	05

**If using COE90, adjust this temperature to 900°F

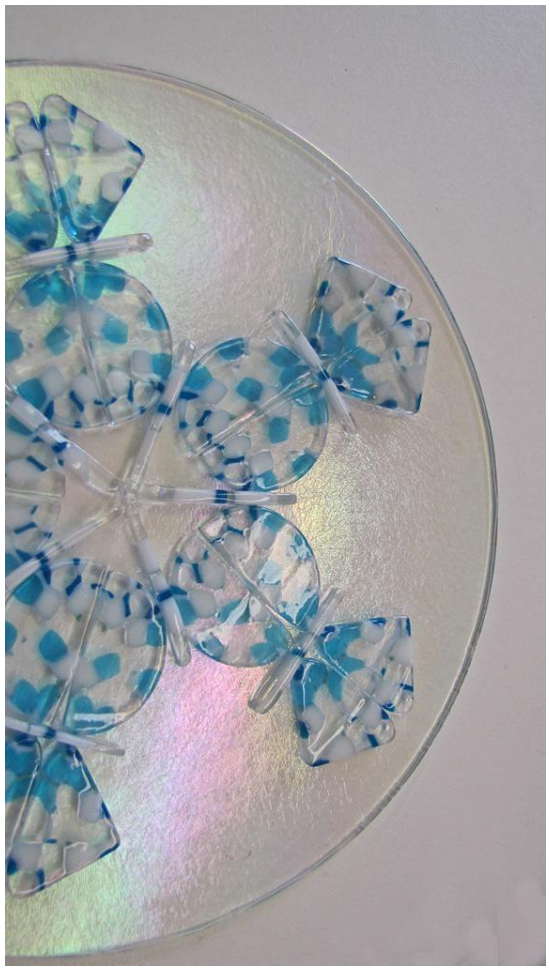


Image 1

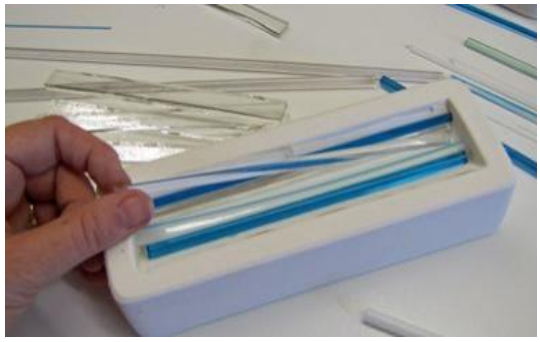


Image 2

Image 3

After firing, allow the glass to cool naturally. Invert the molds onto a soft surface to de-mold the fused pattern bars. Note that the bars are not entirely flat on the top surface. If desired, this rounded surface can be cut to create a flat edge.

These pattern bars are thick and require a sturdy saw for cutting. We used a Taurus III Ring Saw with a Mega Blade, but a diamond blade on a tile saw or similar will also work.

Cut the pattern bars across the pattern into 1/8" and 1/4" thick pieces. To create a mirrored effect when two slices are placed together, cut the rounded top surfaces to make them lie flat against each other (Image 5). The snowflake pattern shown on Page 1was created by pairing ½" round slices with each other and ½" square slices with each other. The thinner pattern strips used in other places on the snowflake were created using the scrap cut edges from the bars.

When placing your pattern onto another sheet of glass, the two can be joined using a Tack Fire schedule, such as the one found in **Table 2**, or with your own preferred Tack Fire schedule. The snowflake in this project was tack fired onto an 8" round circle of COE96 Clear Iridized Glass.

Table 2: Tack Fire

Segment	Rate	Temp (°F)	Hold
1	250	1100	05
2	250	1380*	05
3	9999	950**	60
4	100	815	05

*For a smoother, rounder finish, add heat to this temperature
**If using COE90, adjust this temperature to 900°F

Image 4

Pattern bar with a slice removed from top

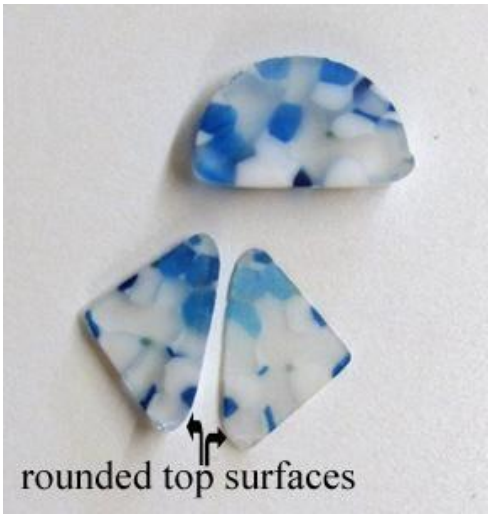
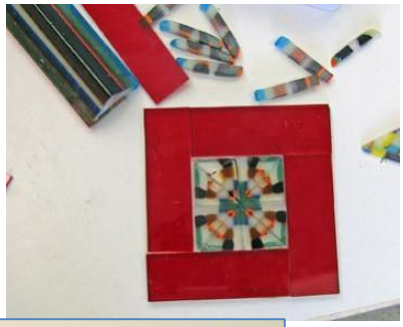


Image 5

This technique can be applied to all sorts of colors and finishes of glass. The coasters pictured below are just a few examples of the variety of patterns that can be created!



These coasters used pattern bar pieces created in the same way as the snowflake but were fused on a sheet of Thin Fire Paper with pieces of sheet glass around the edges to create the coaster shape and size.