Beadmaking: Getting Started

Setting Up

Find a well-lit, well-ventilated room. It would be preferable to have a tile or concrete floor to avoid any accidental damage. Always wear safety or prescription glasses as eye protection. A metal work surface is included with the kit (for table surface protection). However, it should be placed on a heat resistant table surface such as tile, tile backer board or metal.

Beadmaking Kit

Mapp gas is the preferred fuel source for this torch system. Mapp cylinders are typically yellow in color and found next to propane at hardware stores or Mapp retail stained glass suppliers. Tighten the torch head on the cylinder making sure the valve is in the closed position. Place the hose clamp around the cylinder and slip one side of the L bracket into the hose clamp. Position the L bracket directly in line with the torch head and tighten the hose clamp on the cylinder. Fasten the L bracket to your table with the C clamp. Place your metal work surface directly beneath the torch head.

Mapp Cylinder

Arrange your supplies in a semi-circle around the edge of the work surface. Open and inspect the air-dry release material (gray bottle). You may need to add a little water. The consistency should be that of loose pancake batter. Shake thoroughly. You may need to add water and shake periodically. This is the release agent for your stainless steel mandrel. It keeps the glass from sticking to the steel and resists heat transmission up the steel mandrel.

Lighting the Torch

A striker is not included with the kit because some people prefer using a fireplace or BBQ butane style lighter (often under $3.00 at a hardware store). Turn your torch on and use a striker or lighter to ignite the torch. You will notice that the flame has a center, darker blue flame approximately 2-3” long. The tip or point of this part of the flame is the hottest and cleanest area of the flame. Working closer to the torch creates a reduction atmosphere where the fuel is not fully burned. This causes the glass to turn slightly brown. Around that center flame is a sheath of flame (see image #1). The tip of the flame (approximately 10-15” from torch head) is considered the “back flame. Here you can anneal warm glass or dry the release on the mandrel.

1

Coating the Mandrel

Before actually making beads, heat treat the steel mandrels by “browning” them in the flame (image #2), then place them on the fiber blanket to cool. This burns off any manufacturing oils so that the release makes good contact. After cooling, coat the mandrels by plunging them straight into the air-dry release jar and and allowing them to touch bottom. While at the bottom of the jar, give the mandrel a little twist and pull it straight out making sure not to scrape the release off on the rim of the bottle. This technique should apply a thin, even coat of release on the mandrel. Dry the release (turns light gray) by rotating in the back flame. Getting too close to the flame will boil the water out of the mix and create pock marks that would cause the glass to stick to the mandrel. You can rest your arm/hand holding the mandrel but do not set the mandrel down as you may nick the coating.

2

Melting Glass

First it is important to use only glass that is compatible together. The kit includes Italian Moretti glass with a Coefficient of Expansion (rating) of 104. There are two beginning foundations related to the type of bead you intend to make. Seed beads (usually no greater than 1/4” in diameter) are made by only working the tip (first 1/2”) of the glass rod. This is first waved in and out of the flame in a rapid motion for approximately 10 seconds before holding in the flame. The glass will take 5-10 seconds from that point to melt. Re-warm the coated mandrel in the flame prior to pulling the glass onto the mandrel. After warming, the mandrel is held slightly under the flame and the molten tip of the glass is touched to the mandrel (image #3). Rotate the mandrel away from you, thus pulling the hottest (bottom) glass onto the mandrel. The glass rod is held vertically and perpendicular to the mandrel while doing this. If the glass stiffens (loses orange glow), stop rotation and heat the connection in the torch until you can proceed. Keep about 1/4” separation between the bulk of the glass rod and the bead surface (see image #4). Always rotate the mandrel away from you—it pulls molten glass on to it. Note: Rotating towards you allows the top (colder) portion to act as a plow. When you have the desired size, burn off the glass bridge between the rod and bead in the torch. Continue smooth, even and level rotation of mandrel in the flame (see images 5 & 6). Physics takes over at this time. Surface tension allows the formation of a round shape. The combination of gravity and centrifugal force with proper rotation will always make the mandrel round. Once your desired shape and size are achieved, continue rotating as you take it out of the heat. Allow the bead to cool to the point that it can go into the fiber annealing blanket. Note that the red glow must be completely gone (outside and internal glow) prior to going into the blanket. A quick check with the bead under the table can give you a fairer reading on temperature. Cover bead and allow to cool naturally for approximately 45 minutes. DO NOT PEEK! As you insert additional beads/mandrels into the blanket, hold down the portion already containing beads so as not to expose them to a draft and shock the glass.

Making Larger Beads

3/8” and larger are best made by using a gather technique to accumulate glass on the mandrel. Rather than just heating the tip of the glass rod, warm and melt approximately 3/4” - 1” in from the end. As it melts (see image 7), the rod will bend down. Raise the rod out of the flame vertically, soft end up. This section will fold back onto itself. Continue this until you have 3-5 folds. Remember to warm in the back flame or wave for 5-10 seconds in between. Place the center of this gather into the torch and heat until orange. All lines of distinction disappear and the glass becomes an uneven molten glob. It takes practice and patience to rotate the glass rod, keeping the gather on top and preventing it from dripping off. Continue rotating until the bead assumes a symmetrical, round shape. Continue to rotate as you slowly cool the bead.

Decorating Beads

Preparation for decorating involves pulling stringers of different glass colors. The tip of the molten glass rod (removed from the flame) is grasped with a pair of tweezers and pulled. The rate of pull is relative to how thick the stringer is. Faster—smaller, slower—thicker. These can be burned off the rod in the torch flame, air cooled on the blanket and stored for use in decorating the beads.

When you have achieved the bead shape and are prepared to decorate, continue rotating out of the flame until the surface color changes and loses the glow from the surface. The surface is now firm enough to start adding additional colors. The glass rod or stringer is heated in the flame and the decorations are added out of the flame (see image 8). Remember to continue to rotate the bead except when you are decorating. Give the bead a “walk in the park” by bringing it back into the flame every 5-10 seconds with several rotations. This keeps the bead above the shock range. Shape change of a round bead is done at the full orange range. Then the bead can be marvered into a cylinder, flattened into a pendant or squared off into a cube (image 9). Raking also occurs at the full orange glow. Raking is done while the bead is rotating and the bottom half of the bead is in the flame while the top half, plus the rake, is out of the flame (see image 10).

Other shapes can be achieved by pulling or flattening the round, hot bead. See additional images. A top notch book for beadmaking is: **Making Glass Beads by Cindy Jenkins** (item #71292). This book demonstrates step-by-step techniques with hundreds of color photographs. The **Beginning Beadmaking Kit** can also be used to make marbles, glass icicles and glass blown ornaments “Glaskolben”. See your retailer for information on these products.

Raked “Feather” Bead

Flattened, Cut Leaf

Flattened Pendant

Cylinder Bead

Square Bead