BLOWN GLASS ORNAMENTS
for Christmas or Year-round Decoration

Glaskolben pre-blown clear glass cylinders are used for blowing glass balls or 3 dimensional shapes. It is the same product used throughout Europe for making Christmas tree ornaments.

Glaskolben is available in two forms: Sealed End Cylinder and Dual Spike Cylinder. Each form is available with 1.0 or 1.5mm wall. The wall thickness governs the maximum blown form size.

Glaskolben ornaments may quickly be blown freehand into a ball or blown into a mold for 3 dimensional shapes.

EQUIPMENT
All that is needed to make attractive glass shapes with Glaskolben:
• Hothead Torch & MAPP Gas #15613
• Minor Bench Burner #16021
• Fishbone Annealer #15188
• Vermiculite #4831 & 48312

SUPPLY LIST
Glaskolben sealed-end cylinder style is used for mouth-blowing spheres or other round shapes. It is also used for blowing into a mold.
• Glaskolben Cylinder 1mm wall #155100
• Glaskolben Cylinder 1.5mm wall #155103
• 90 COE Frit and Powders
• Ornament Caps and Loop Sets:
  Silver 10mm #15840, 20mm #158421
  Gold 10mm #15841, 20mm #158431

GLASS BLOWING AN ORNAMENT
Blowing an ornament with Glaskolben is easy. However, it takes practice to get the feel of the glass as it softens in the flame.

TO START
Light the torch and adjust the flame back from a sharp point. A broader flame is better. Select a Sealed End Cylinder and introduce it into the back of the flame (away from the torch). Rotate it as it is brought into the hotter area of the flame. Continue to rotate until the cylinder is glowing red and starts to reduce in size or collapse. Be careful not let the neck end of the cylinder get as red or the cylinder will be hard to manipulate.

Remove Glaskolben from the flame, hold vertically, then give it a quick snap to align the cylinder. Blow steadily into the blow pipe end to create a full ball while rotating (see illustration). Practice makes perfect. Overblowing can cause a blow out. When desired size is achieved, anneal the Glaskolben. See annealing instructions on next page.

ELONGATED BLOWN SHAPE
To make an elongated shape follow the same procedure as in blowing a ball. Rotate the cylinder in the flame until it starts to glow a red color. Then use tweezers to pull the end as far as desired while blowing and rotating. Immediately put the ornament in an annealer.
FLAME ANNEALING
Move the glass shape out of the hot area of the flame [blue color] and in the yellow range for 2 to 5 minutes to allow it to slowly cool and anneal.

KILN ANNEALING
This is the most reliable method. The kiln control can be set for the desired annealing temperature and run for twenty minutes or more. The amount of time after 20 minutes makes no difference. One cannot over anneal. Leave product in kiln to cool slowly.

VERMICULITE ANNEALING
Placing a blown shape deep in a container of vermiculite warmed on a hot plate, serves well. However, care must be taken to be sure that the red glow has faded before placing it in Vermiculite. Otherwise, it may stick to the glass.

REMOVING THE BLOWPIPE END
After the ornament has annealed the blowpipe end can be removed. The best method is using a Carbide scoring tool. With this tool in one hand and the ornament in the other: press the sharp side of the carbide steel against the blowpipe neck and the thumb of the same hand pressing against the other side, rotate the shape while scoring the neck. Still holding the ornament, tap the blowpipe end to break it off. An ornament cap can be placed on the ornament to finish it off. Don’t discard the cutoff neck! It may be decorated to make a stylized bell, etc.

DECORATING THE BALL
One method is to paint the surface with Vitrea 160 paints, designed specifically for glass. Once painted, they should be fired to 325°F. (See Pebeo Vitrea instructions.) Another method is to use colored frit or powders. See Illustration. Fill to approx. 1/5 of the cylinder or just beyond the bend. Before heating in flame rotate the Glaskolben in the same manner as with the glass ball. It will take a little longer to bring the ball to blowing temperature because of the added volume of melting frit. The result is worth the added time!

A variation on the use of frit and powder is the method the production European blowers use when they add sugary snow on the ornament. Place some frit or powder in a wide flat bowl or saucer, roll the hot cylinder over the grit then reheat the frit covered cylinder in the flame. Blow into shape. Stringers or Noodles offer another form of surface decoration. Select one, and while rotating the HOT Glaskolben counterclockwise (turn away from you) in the flame, heat the tip of the stringer in the flame. Place it under the cylinder, attach it and then allow it to trail around the cylinder. The stringer may be burned off at the finished end. The point of the stringer may also be applied to the ball at 90° angle to dimple the surface.

CREATE YOUR OWN
Blown Glass Christmas Tree Ornaments
Using Glaskolben, the pre-formed glass cylinder with blowpipe for mouth-blowing glass balls or three-dimensional shapes, you can create ornaments reminiscent of the work of traditional European artisans.

Decorate Glaskolben™ with stringers or frit and frit powder. Paint them with glass paints, stains or lacquers; heat cure with colored enamels. Apply decals to the surface of the finished ornaments. Creative possibilities are endless!