

An Introduction to Lampworking and its History.

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Lampworking is the process of making glass beads by melting glass rods in a flame and winding the molten glass around a metal mandrel, which is coated in bead release (slip). The hot glass can then be shaped and decorated in a multitude of ways before being slowly cooled (annealed).

The earliest examples of glass beadmaking are from Mesopotamia (2340-2180 BC). The Roman period, New Kingdom Egypt and the era of Islamic dominance in the Mediterranean (600-1400 AD) are considered to be the three great periods of ancient glassmaking.

During the Roman period, Glassmaking techniques spread throughout the Empire, although by the end of the Roman era, European beads were of a poorer quality. During Roman times, a network of bead manufacturers, who shared techniques and styles, existed throughout Europe, Asia and the Mediterranean. After the Empire dissolved, these major centres were replaced by numerous, smaller workshops and beads with highly localised characteristics developed.

The SCA Period in Europe

The Franks, the most powerful successors of Rome (Late 5th to early 9th century) are known to have made glass beads. They were inspired mainly by Roman designs, but also developed their own styles and were influenced by Celtic bead designs. Beads are one of the most common items found in pre-Christian Viking graves. Glass beads were made in Helgo and Pavikan, but most were imported. Beads found in Viking graves have many origins, not surprisingly due to the far-ranging travels of Viking sailors, and some were probably passed down as heirlooms. For example, a distinctive mosaic style bead from 300-400 AD has also been found at Viking sites from 800-1000 AD.

The history of glass beads in Europe from 800-1400 AD, however, is still somewhat unclear. Glass beadmaking in the Roman style continued, despite destruction of the Western Empire and turmoil throughout the early medieval period, in Rhineland, Italy, Russia and the Balkans. After the 12th century, glass beads do not appear to have been produced in Europe in high quantity or quality until the rise of Venice as a major centre for glassmaking in the 15th century.

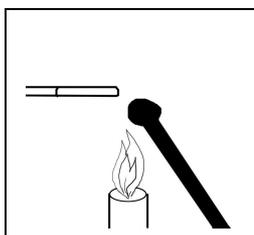
During the Middle Ages, jewellery was considered by the church to be a Pagan custom and was actively discouraged. Beads were used primarily for Rosaries until the late 14th century, when their decorative function began to rival their religious significance. In 15th century Europe, glass beadmaking reappeared as an important art and industry. The Venetian's rediscovered many Roman glass-making techniques and beadmaking took a place amongst the great arts of the Renaissance.

Safety

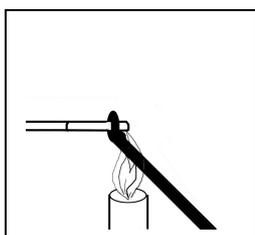
Lampworking can be a dangerous practice, unless extreme care is taken and various safety measures followed. The working area needs to be well ventilated, to avoid fumes building up and Safety Glasses must be worn at all times. Thermal shock can cause glass to crack, particularly when it is first introduced to the flame, and the small, hot shards of glass can fly quite a distance. A fire extinguisher should be within easy reach. Running water should be readily available, in case of burns. The working surface should be protected by metal, as both the glass and any tools used will retain heat for a long time. It is imperative that care is taken with the hot tools and glass, as they may not look hot (in particular, graphite tools will not glow but will reach very high temperatures).

Process

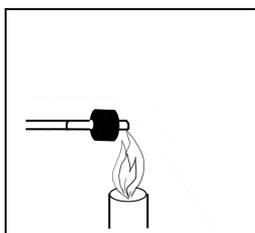
1. Heat a glass rod until there is a ball of molten glass at the end. Simultaneously, turn a prepared mandrel in the flame to warm.



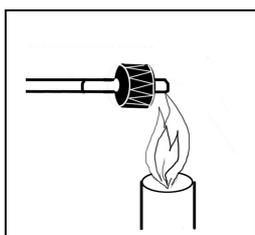
2. Lightly touch the hot glass to the mandrel and turning the mandrel away from you at an even speed, wrap the glass around the mandrel. Ensure you do not try and wrap cold glass, as you may crack the bead release.



3. Apply more hot glass, if necessary, to achieve the desired size and to ensure the glass is applied evenly. Apply heat to smooth the surface, turning the mandrel constantly. Gravity and centrifugal force will make the bead spherical. You can use tools and gravity to redistribute the glass if necessary, or to shape the bead into other forms, such as cylinders and squares.



4. Once the desired shape is achieved, surface decoration may be added, such as stripes, dots, millefiori etc



5. Once the decoration is in place, apply heat to reshape the bead, if necessary and to melt in the design, if desired (decoration can be left raised, or melted flush with the surface).
6. When the bead is complete, slowly work the bead up through the flame, so it cools slowly. When the glow has subsided, remove the bead from the heat (still turning), count slowly to three, and place in the vermiculite or fibre blanket. Depending on its size, the bead will take between 20 minutes to an hour to cool. Do not remove until it is no longer warm. The bead can then be cleaned (the bead release will need to be scraped from the hole) and kiln annealed.