

Glass and Fusing

By: Taylor Floyd



Glass is a compound that is composed of Silicon dioxide (sand) and other metal ions. It lacks shape, pattern, a repeating crystal lattice and a sharp melting point. Looking at glass through a molecular structure standpoint, Silicon dioxide is composed of 2 non-metals, therefore the electrons will be shared between the molecules, creating a covalent compound.

Lampwork glass beads like the one to the left, can be created by heating up glass rods and wrapping the molten glass around a clay coated mandrel while it is soft and flexible. More than one color can be used during this step if desired. Once the bead on the rod forms a desired shape, the bead is removed from the flame and cools down and becomes firm and solid. The beads can then be strung together to make a necklace or bracelet. The beads can also be strung onto metal wires to add color accents to metal sculptures which are used by working and bending metal, like our previous lab which included wire metal sculpture.



Glass fusing can also be used to create a glass fused cabochon like the one to the lower right. This can be created by layering a solid color of glass on the bottom to create a base, a middle layer of various glass pieces (they must have the same COE to correctly fuse together) and a top transparent layer of glass. The layers of glass are carefully transported and heated in a kiln. The picture to the left displays the cabochon before being heated and the one below is the cabochon after the glass has been heated and fused together. This process can also be used to create jewelry or colorful accents to sculptures.

Through this lab activity, I was able to better understand the material discussed in lecture, grow an appreciation of communication through art and demonstrate a higher accountability. In lecture, we discussed how glass is brittle but will actually soften and flow once it reaches its transition temperature. In lab, we could easily cut glass using an exact-o knife to score it, then use a tool to break the glass into pieces and also heat up the glass rods to turn them into a liquid which could be easily wrapped around itself and take the form of a new shape. Beadwork and fused glass cabochon can tell a story through the colors and if the canvas is large enough, pictures also. I attempted to make a bead using the colors of my favorite soccer team the Seattle Sounders (Blue and lime green). With more craft, it could be turned into a memorabilia magnet or pin. Also, we are held to a higher accountability in labs because we are trusted to safely work with many dangerous hazardous materials including open flame and sharp glass. We also completed these labs by ourselves within the allotted amount of time, so we had to rely on ourselves to work proficiently and diligently.

