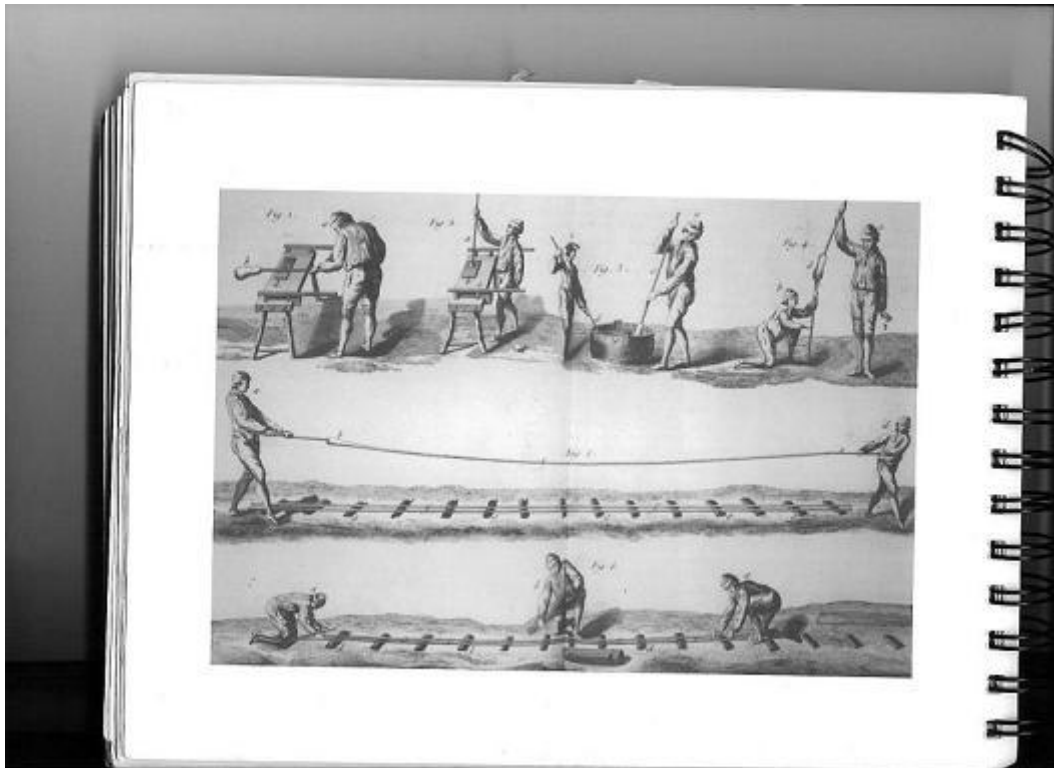


GLASS AS A MATERIAL FOR BODY JEWELRY

GLASS GAUGES



Gauging glass is problematic. Glass rod and tubing are manufactured in two ways. Understanding the manufacturing process will help you to understand the problem with precise gauging in glass jewelry.

The first method is by hand, executed by a team of expert glass workers. Soda-lime glass and colored borosilicate rod are made by “gathering” glass out of a large furnace of molten glass on the end of a steel rod, much like twisting honey around a spoon. After the gob of glass is large enough (usually requiring three or four consecutive gathers in the furnace), a second artisan attaches another steel rod to the opposite end of the hot glass, which is about the size of a football. Very skillfully the glass workers wait until the glass is at the right viscosity and then walk backwards away from each other, pulling the mass of glass into a long rod (sometimes as long as ten meters). The longer the pull of glass, the thinner the rod. As the glass is stretched out it cools and becomes solid, at which point it can be quickly cut into lengths and put into the annealing oven. This method of pulling hot glass into rods has been in practice for thousands of years, and is the same method being used today.

Hand pulling glass rod presents several challenges for piercing jewelry. If the glass is too hot or less viscous, it sometimes has the tendency to become oval; the glass is still sagging because of gravity as it is being pulled into the rod resulting in the oval shape.

Another challenge is that because the glass is hot and the working time of the glass is short (the time it takes for the glass to cool and become solid) everything has to be done in the moment by eye, with no time for precise measuring. Sorting and measuring the gauges of the glass rods does not happen until the following day when the rod is removed from the annealing ovens. It would not be cost effective for the manufacturer to select only the exact gauge sizes, they would lose the majority of the raw material, and the cost of the finished jewelry would sky rocket as a result. Therefore there is generally a tolerance of one full millimeter in gauging glass jewelry, with stricter tolerances in the smaller gauges. Also slightly oval material is sometimes used. Although it can be frustrating that gauges are not exact, it is also an advantage because in-between and difficult to find sizes are also available.

The second method of producing glass rod and tubing is extruding glass directly out of a furnace. This is used in the mass production of colorless borosilicate rod and tubing for the scientific industry. Massive furnaces gravity feed glass out of an opening at the bottom of the furnace and stretches it onto rollers. The rod is formed directly out of the furnace, without the additional labor and craftsmanship of a team of artisans. Glass rod manufactured in this way has much more consistency in sizing and shape. Rod sizes are usually produced according to the metric system, each size is by millimeter. This creates its own set of challenges, since millimeters do not translate precisely to the gauge system. As a result most glass piercing jewelry companies measure their jewelry in millimeters, which is much more practical for determining sizes and tolerances, and also offer the gauge size as a reference.

It is important to remember that the glass artist making jewelry is limited by the consistency of the glass rod being used. Since glass is a hand crafted product, there will never be the consistency found in steel jewelry.