

Glassware Terms

Blank

The plain undecorated piece of glassware or crystal which will be further processed to be decorated, engraved, cut and polished.

Blown Glass

Glass forced into shape by air-pressure, either by mouth blowing or machine blowing. This can be done with or without the use of a mould.

Crystal

A much abused term which in the trade, simply refers to a clear colourless glass. The general materials used to produce crystal are fine silica sand, potash, and cullet (broken pieces of glass which are essential for the batch mixture). Other materials can be added to the basic batch mixture, such as oxides, i.e. lead oxide, gold oxide, barium etc.

Lead Crystal

When lead oxide is added to the basic glass mixture, "lead crystal" is produced. The amount of lead oxide added, determines the classification of the crystal, as well as the strength and malleability of the crystal. It also enhances the brilliance and clarity of the glass. Semi-lead crystal (crystalline) contains approximately 8-10% lead oxide, while the term "full lead crystal" is generally conceded to contain a minimum of 24% lead oxide. Lead oxide was initially introduced into crystal by the English approximately 250 years ago, due to the fact that it has a low melting temperature (1000 - 2000 degrees Celsius). Lead oxide also adds brilliance to the product when cut. It should also be noted that the most important reason using lead oxide, is to soften the glass and, therefore, facilitate cutting and engraving on the item as a means of decoration. There are obviously disadvantages of having a softer glass product, i.e. it is more unstable during temperature changes; if softer, then it tends to chip or scratch much more easily.

Barium Glass

When barium oxide is added to the basic glass mixture, the result is a product of superior clarity, strength and resiliency. Barium glass is primarily used in the production of those stemware lines which have a long, slender stem, or relatively thin-wall bowls.

Cutting, Engraving & Etching

Cutting, engraving or etching on glass or crystal are three completely separate techniques of decorating glassware. The easiest way to distinguish between the three techniques is that cutting is a "wet process", while engraving and etching are relatively "dry processes".

A diamond-carborundum wheel is used for cutting glass crystal and a continuous stream of water during the cutting process ensures the tiny glass particles are removed. Engraving is done generally with the use of a small copper wheel which produces a "shallow cutting" into the surface of the product. A small amount of abrasive fluid (not water) is used in order for the wheel to move more smoothly over the surface and scratch the design into the piece. Etching can be done with a laser or acid process.

Coloured Crystal

Colour is introduced into the glass by the addition of various oxides to the basic batch mixture. Gold oxide (as well as chrome oxide) is used to produce the ruby colour, this is the reason why ruby glass is generally more expensive. Iron oxide produces a green colour, cobalt oxide produces blue glass and the addition of uranium oxide will produce an amber or yellow colour. It should be noted that generally, colour is found in non-lead crystal products, but may also be used in glass which covers full lead crystal.

Moulds

Both wooden and cast iron moulds are used in the production of crystal/glass products. Although, the wooden moulds are produced from hardwoods (Cherry and Beechwood), they must be replaced more often as they burn-out after time despite being immersed in water.

Pressed & Over Cut

This refers to an item, generally produced in lead crystal, that has had initial base cuts pressed using a mold. The piece, however, must be finished with fine hand-cutting by a master cutter in the same manner as a completely mouth blown item.

Pantograph

This is a technique in which a clear glass is dipped and covered in a mixture of paraffin and bee's wax. Then the glass is placed on a machine which has four needles surrounding the glass. An operator traces a stencil which is hooked to the machine and wherever the operator traced, so too, do the four needles and thus they remove the wax leaving a design.

The glass is then taken and placed in an acid solution for anywhere from 7 to 40 minutes depending on the size of the piece and acid concentration. In this process only the areas uncovered by wax are eaten away (the design area) and the wax is removed later by hot water to be reused.

Guilloche

This is an identical procedure to pantograph, but there is only one needle used producing simple geometric patterns which are continuous.