

HOW COMPACT DISCS ARE MADE

1 GLASS MASTERING

The process begins by making the "glass master". To do this, a glass plate about 300 mm in diameter is lapped flat and polished. The plate is coated with photoresist.

A laser then writes the pattern from the original information (your master) into the photoresist.



2 ELECTROPLATING

The photoresist is developed. A layer of metal (typically silver over a nickel flash) is evaporated over the photoresist. The master is then checked for accuracy.

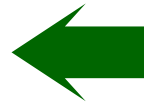
The master is then subject to an electroforming process. In this process, additional metal is deposited on the silver layer.



3 STAMPING

The electroplating process is then repeated on the "father". This typically generates 3-6 positive metal impressions from the father before the quality of the father degrades unacceptably. These impressions are called "mothers".

The electroplating process is repeated again on the mothers. Each mother typically makes 3-6 negative metal impressions called "sons" or stampers. The sons are suitable as molds for injection molding.



4 MOLDING

With the mold ready, CDs can now be replicated. Liquid polycarbonate is injected into the mold for a minimum of 6 seconds.



5 METALLIZATION

Once the disks are molded, a micro-thin layer of aluminum is used to coat the disks. The aluminum surface acts as mirror to reflect the laser light of a CD player so that information can be read.



6 LAQUERING

Following metal deposition, a thin plastic layer (1-30 microns) is spin-coated over the metal. This protects the CD and its information from harm. The disc is then ready for printing.



8 PACKAGING

The discs are either manually or automatically packed into jewel cases with the accompanying booklets and inlay cards.



7 PRINTING

Finally, the CD artwork is printed directly onto the disc, either by a silk screen or offset process, from one to six colors. The result is a clean, polished appearance.