

## Will your Nickel Print work for thru-hole (through-hole) plating?

The quick answer to this is yes, BUT the quality of the connection is limited to the specifications of the Nickel Print. It has a resistivity of 0.7 ohm-cm. It also will not be as durable or heat resistance than some of the more common methods for plating a thru-hole.

The two most common ways to plate a thru-hole is by using an eyelet or a process involving Electroless Plating and Electroplating.

Eyelets are fine for minor repairs but when you have many thru-holes to plate, it is too time consuming. It is also not as reliable as the electroplating method. For small production runs, the Electroplating process is the way to go.



### Define Electroplating

Electroplating is a plating process that uses electrical current to reduce cations of a desired material from a solution and coat a conductive object with a thin layer of material, such a copper.

### Electroplating a thru-hole

Most systems in the market are too expensive for the general hobbyist or small to mid-size businesses that require a small production run. A typical thru-hole plating system runs for as much as \$4000 USD.

M.G. Chemicals has been working on a cost effective Electroplating line that target, hobbyists, small to mid-size businesses, education institutes and R& D departments. These kits will give you professional quality and look at an economical price.

It can also be used to strengthen existing copper traces.

As we all know, the base FR4 material of a standard circuit board is non conductive. Therefore, a freshly drilled thru-hole is non-conductive. For that reason, it can't just go into an electroplating tank and expect it to plate the thru-holes. This is why the board needs to go through an Electroless Plating Process before going into the electroplating tank.

## A quick run down of how thru-hole plating works using M.G. Chemicals Electroless and Electroplating system:

### 1 Electroless Plating

- Dip the pre drilled board through a series of chemical baths (5 in total)
- Total process time will be under an hour

Simply put, the sole purpose of the Electroless process is to make a non conductive surface electrically conductive. In this case, the freshly drilled thru-holes.

[Download complete instructions](#)

### 2 Electroplating

- Once the board with the thru-holes has gone through the Electroless Plating process, it is now conductive enough for Electroplating.
- Depending on the type of metal you want to deposit, different solutions and different Anodes are used. In our case, it will be copper.
- After an hour in the electroplating tank, enough copper will have been deposited on the thru-holes for solder to securely bond to it.

[Download complete instructions](#)

[Refer to instructions for list of products.](#)

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