

PROFESSIONAL ETCHING PROCESS KIT

Cat. No. 416-E

For etching professional quality printed circuit boards. Suitable for prototyping or small production runs.

Kit contains:

- 7 liter polyethylene tank with clear acrylic lid
- Sturdy mounting bracket
- Clear acrylic lid
- Heavy duty air pump (CAT. NO. 416-AP)
- 3 way adjustable airline manifold
- Triple line sparging unit
- Air hose for sparging unit
- 200 watt floating vertical heater (CAT. NO. 416-H)
- Floating thermometer
- Nitrile disposable gloves (CAT. NO. 416-G)

** This kit contains no chemical products.*

INSTRUCTIONS

1. Secure the tank within its mounting bracket and screw the bracket to the surface you will be working on.
2. Fill tank with 7 litres of etching solution (ferric chloride, sodium persulfate, or ammonium persulfate recommended). Do not overfill.
3. Ensure the floating heater is set to maximum 32 °C (90 °F). The power can be adjusted by turning the knob on top of the heater. The temperature the heater is set to can be read on the side of the heater. Plug in the heater and place it in the etching solution at the spout end of the tank.
4. Place the thermometer in the tank, on the opposite end from the floating heater (do not use the heater if the tank is less than 3/4 full).
5. Wait for the etching solution to be heated to 32 °C (90 °F).
6. Connect the airline to the output on pump, then plug the pump into a power outlet and place the sparging unit into the tank. The pump will begin to operate as soon as it is plugged in. If no air bubbles come up through the solution, then the three knobs which regulate the air flow through the air lines are turned off. Twist them until maximum air flow is achieved.
7. When ready to etch, lift up the sparging unit to the top of the tank, and place the board(s) to be etched into the slot(s) on the bottom bar. One board may be placed on either side of the sparging unit.
8. Lower the sparging unit back into the tank, and let sit with the heater and pump running. Etching is complete when all exposed copper is removed from the board.
9. When etching is completed, ensure the heating unit is unplugged and cooled to room temperature before removing it from the solution. Dispose of the spent etchant in accordance with local regulations. Remember that dissolved copper is toxic to aquatic life and cannot be poured down the drain.

**** Important: Avoid skin contact with etchant or direct breathing of vapor.**