

PCB Etching Tanks

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping

A PCB etching tank holds heated etchant solution (usually ferric chloride) that chemically removes unwanted copper from a printed circuit board, leaving the traces protected by resist. Tank etching gives reliably faster, more even results than open trays.

Key Features

- Heated tanks to around 30-50 degrees C
- Aeration or bubble agitation
- Lids and handles for safe use
- Sizes for boards up to A5 or A4
- Drain taps for emptying

Typical Uses in the Workshop

- Etch student PCB designs from UV exposed boards
- Reclaim copper and recycle etchant responsibly
- Produce prototype boards in quantity
- Teach the resist, expose, develop, etch workflow

Safe Operation

1. Prepare the board with resist and exposure first
2. Warm the etchant to the working temperature
3. Load the board and agitate for even etching
4. Check the etch progress through the transparent lid
5. Rinse the board thoroughly in water afterwards

SAFETY NOTES

- Etchant is corrosive - wear gloves, goggles and an apron
- Only use in a ventilated area
- Cover the tank when not in use
- Dispose of etchant as chemical waste - never down the drain
- Keep a spill kit and eyewash nearby

Maintenance & Consumables

- Check the heater and element yearly
- Replenish or replace etchant as it weakens
- Clean the tank and aerator tubes
- Check the lid seal and handles
- Log chemical stock and disposal

Specification & Buying Notes

Choose a heated, aerated tank sized to the largest board made. A digital temperature control and drain tap are worth the money. Budget for etchant, gloves and safe disposal.