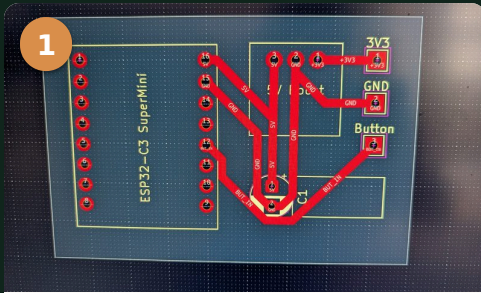


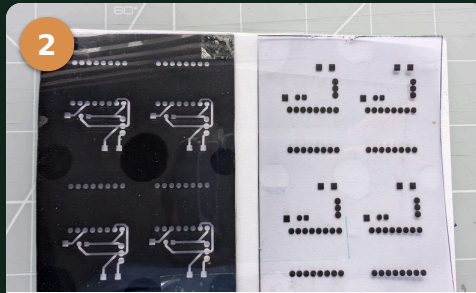
HOMEMADE PCB PROCESS

DRY FILM PHOTORESIST · UV CURE · FERRIC CHLORIDE ETCH



Design in KiCad

Lay out the board in KiCad. Panelise multiple copies to make the most of each blank.



Print Acetate Artwork

Print to PDF with **only the desired layers**, **mirrored** so the ink side is NOT against the board. **Print twice & glue the sheets together** to block stray light. A drop of **alcohol on the non-ink side** gives better contact.



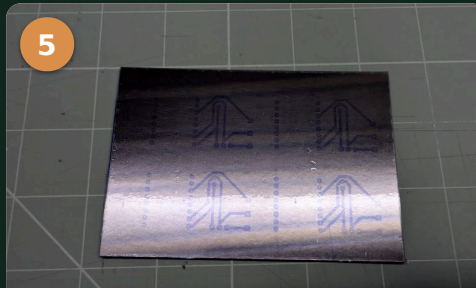
Clean & Apply Dry Film

Clean the board first. Peel the backing, press **one edge only** of the film down, then feed the board into the **laminator** - it heat-rolls the film on and pushes the air out.



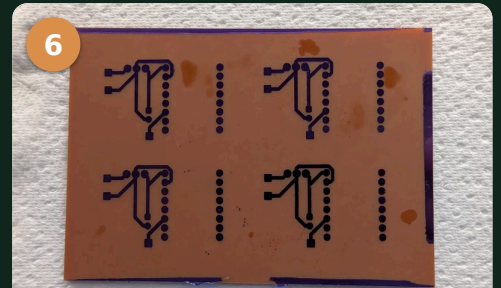
UV Expose - 10 s

Artwork on the board, under the nail UV lamp for **10 seconds only**. It seems quick, but it's well tested.



Peel Cover Sheet

After exposure the latent image is visible in the film. **Remove the extra plastic cover layer** before developing.



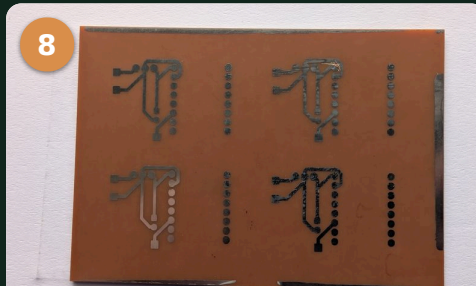
Develop & Re-cure

Develop in **sodium carbonate decahydrate (10 g / 500 ml water)** until **only the artwork remains**, then **re-cure under the UV lamp** to harden the resist.



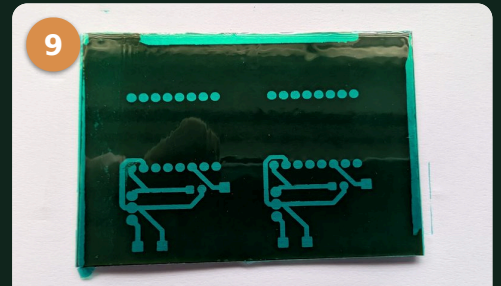
Etch & Strip

Etch in **ferric chloride** until the bare copper is gone, then clean the board off and strip the remaining resist.



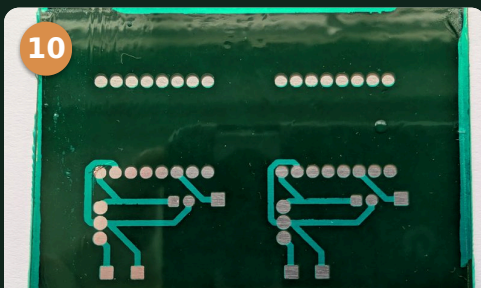
Prep & Immersion Tin

Scrub with **alcohol and a scourer**, then **immersion tin immediately after cleaning** - it takes almost instantly on fresh copper.



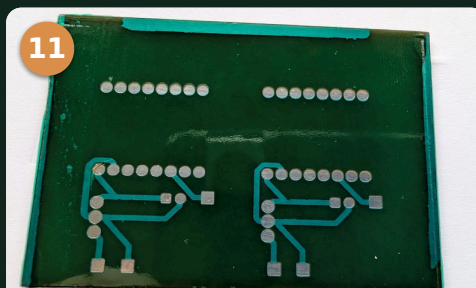
Apply Solder Mask

Laminate on the mask film exactly like the dry film (step 3). **Alignment is critical here** - take extra care lining it up.



Expose & Develop Mask

Expose and develop the mask the same way as the photoresist - 10 s UV through the artwork, then sodium carbonate until the pads are clear.



Final Cure & Bake

Cure under the UV lamp for **2-3 minutes**, then bake in the oven at **150 °C for 60 minutes** to fully harden the mask.

QUICK REFERENCE

UV exposure	10 seconds (film & mask)
Developer	Sodium carbonate decahydrate - 10 g per 500 ml water
Etchant	Ferric chloride
Tinning	Immersion tin, immediately after cleaning
Final UV cure	2-3 minutes
Oven bake	150 °C · 60 minutes