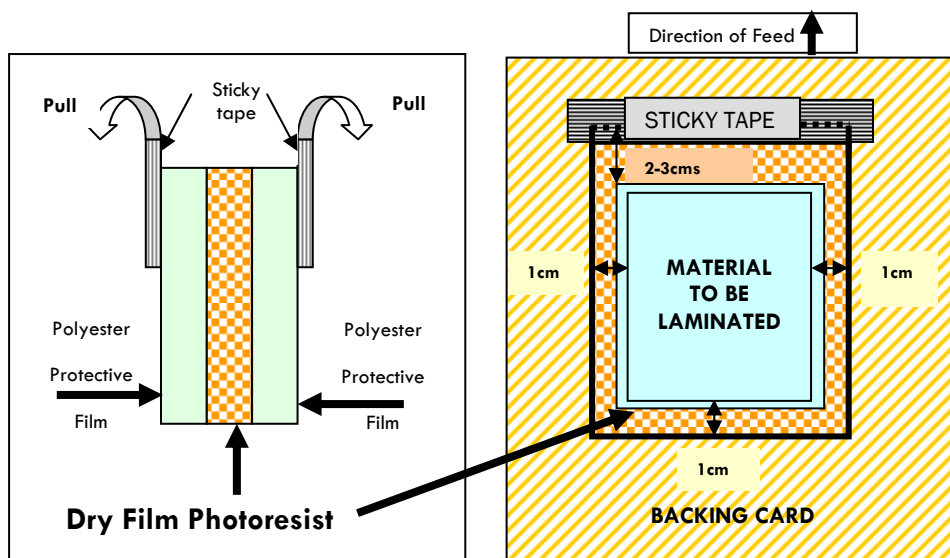


# How to laminate the Dry Film Photoresist

1. Cut a piece of dry film from the sheet or roll provided so that it is about 4cms longer and 1 to 2cms wider than the material to be laminated
2. Cut a piece of 200gsm paper or thin card so that it is bigger than the film
3. Using two pieces of adhesive tape e.g. Sellotape or masking tape, place a piece of tape on either side of one corner of the film, so that they stick to the film, but **not** to each other. Then pull the two pieces of tape away from each other and one of the polyester protective films will come away. (see figure 1 below).
4. The material to be laminated must be completely clean. PCB laminates should be mechanically scrubbed clean with a Scotbrite pad or 900-009 Polyfix block. Other metals should be cleaned by immersing in 500-172-1 1302 Acid Cleaner for 2 – 3 minutes.  
This is **absolutely essential** to achieve a good bond of dry film.
5. Remove the film completely, as well as the tape and having placed the material to be laminated in the centre of the thick paper or card, lay the film over the material with the side where the protective film has been removed being placed in contact with the material. Then making sure that the dry film is flat on the card at the side which will enter the laminator first, tape this to the card (see figure 2 below).



**PLEASE NOTE:** The dimensions shown are as a guide only and are not absolute

Select the temperature and speed required, typically 110°C and Speed 2 for metals and Speed 3-4 for printed circuit boards. Press the 'Mount' button for materials 1mm—3.175mm thick, and reset temperature to 110°C

**HOT** & **MOUNT**

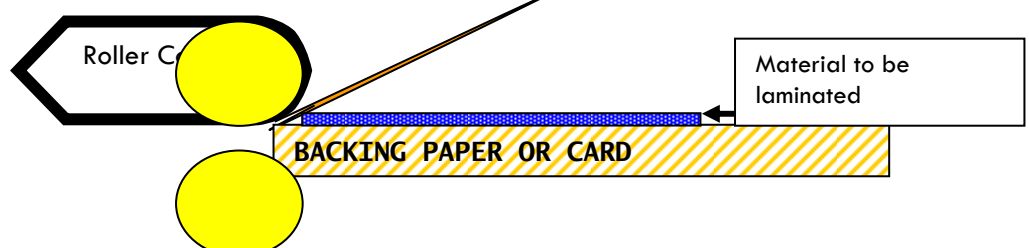
Make sure that the operating temperature has been reached by pressing the button.

**MEAS**

Feed the card squarely into the middle of the rollers and hold the back edge of the dry film with both hands up against the edge of the plastic front edge of the roller cover firmly to ensure film is kept tensioned as it is going through the Laminator.

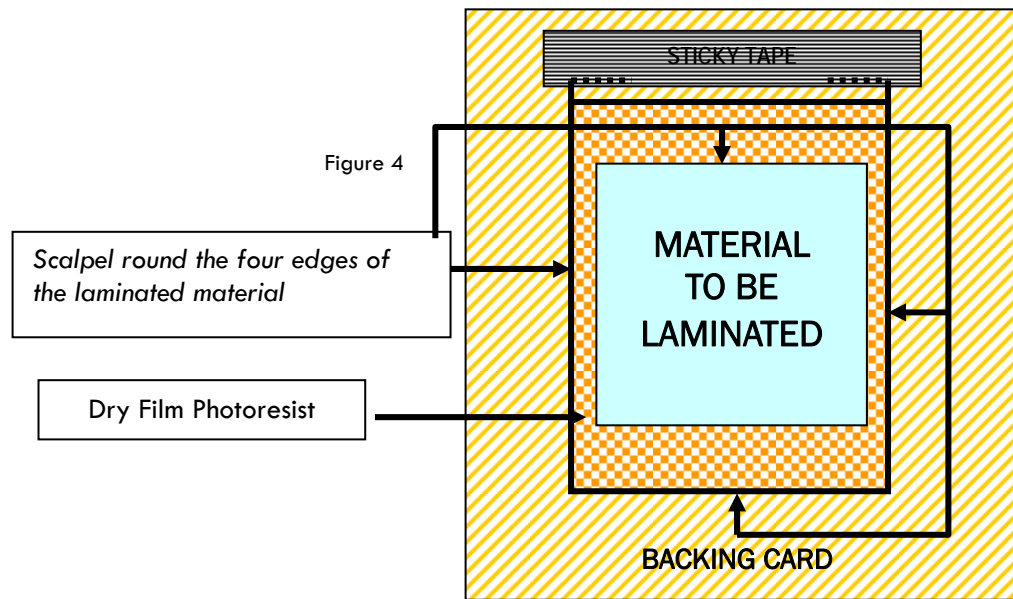
Figure 3

Dry Film to be held in both hands as card and material being laminated pass through the roller



**Do not hold the film too tightly – just firm enough to keep smooth and to stop creasing**

6. When the material has exited the laminator, leave it to cool for 2 to 3 minutes in a dark environment, and then taking a sharp scalpel, cut round the edge of the material that has been laminated and remove the material from the carrier sheet (see figure 4 below)



7. For double sided lamination, turn the material over and repeat steps 1 to 6

**N.B.** The material to be laminated must be completely clean. PCB laminates should be mechanically scrubbed clean with a Scotbrite pad or 900-009 Polyfix block. Other metals should be cleaned by immersing in 500-172-1 1320 Acid Cleaner for 2 – 3 minutes. This is **absolutely essential** to achieve a good bond of dry film.

*Your plate is now ready for processing as follows:-*

1. Place the plate in the AY321 Vacuum Exposure Unit with the artwork right, reading, emulsion down on top of the plate using a positive, if you wish to protect the background material and etch out letters etc. Alternatively a negative for PCB work or raised etching on brass, stainless steel, etc.
2. Set the exposure time for 10 – 20 seconds, Press the **START** button and automatic exposure cycle will commence.
3. When exposure is complete, remove the plate which will show all exposed areas as Blue against a Green background.
4. Remove the top protective film and place the plate in the Developer tank, which should be set at 35 – 40°C. Developing time should take about 2 – 3 minutes, but is usually determined when you can see all the unwanted resist has been removed. When this is the case, place the plate back into the Developer for a further 20 – 30 seconds, then remove and spray rinse.
5. The plate can now be placed into the etching machine (in it's wet state), if only a small amount of etching is required. For deep etching or where the panel is in the etchant for some time e.g. with Stainless Steel it is best to leave the laminated board overnight before exposing and developing. This can then be placed in the etching machine in its wet state.
6. After the plate has been etched, remove it and wash it.
7. Place it in the resist stripping tank set at 45°C – 50°C, until all the resist has been stripped off, normally between 2 – 3 minutes.
8. Remove the plate spray wash and dry.

**FAULT FINDING**

Resist coming away after exposure or in developer.

- a) Surface of plate not cleaned properly.
- b) Laminator not up to temperature
- c) Exposure too short.
- d) Too long in developer or developer too hot
- e) Artwork not black / dense enough

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