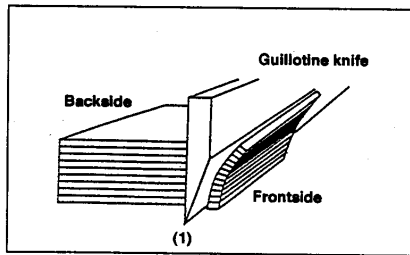


## TL no 2 DIE CUTTING and GUILLOTINE CUTTING of SELF-ADHESIVE PAPERS and FILMS

**Guillotine cutting** of a self-adhesive material may be necessary to cut the material down to size before printing or to cut the printed material to the requested label size.

The following general rules should be followed :

- "Cutting" should be done with a clean, sharp and undamaged knife blade.
- The angle of the knife should be narrow i.e.  $\pm 20^\circ$ .



→ It is essential that the edges be back trimmed i.e. the "good" material should be taken from behind the knife (1).

→ Make sure there is no "**adhesive residue**" on the blade. Adhesive build-up on the blade can transfer to the stack edges. Adhesive residue can be wiped away with a mild organic solvent such as white spirit or hexane.

→ If necessary, lubricate the blade with an anti-adherence spray ("silicone" type).

→ Use a maximum stack height of 50-60 mm.

→ Use minimum "**clamp pressure**". The clamp pressure should only be sufficient to prevent the material from moving during the cutting action. High clamp pressure may squeeze the adhesive out and make the sheets stick together.

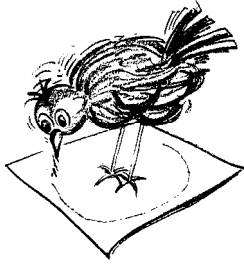
→ Cutting to small sizes after printing should ideally be done face down. Cutting through the liner creates a lubricating effect on the cutting blade. This is particularly important for non-paper materials, due to the elasticity of most films.



→ If despite taking all precautions for cutting, some edge bleeding occurs on the sheet; the edges should be cleaned by gently rubbing with a "**rubber block**". (These rubber blocks can be obtained from MACtac on request).



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**Die-cutting** can be done either through the entire self-adhesive material or through the face stock + adhesive only (i.e. kiss-cutting).

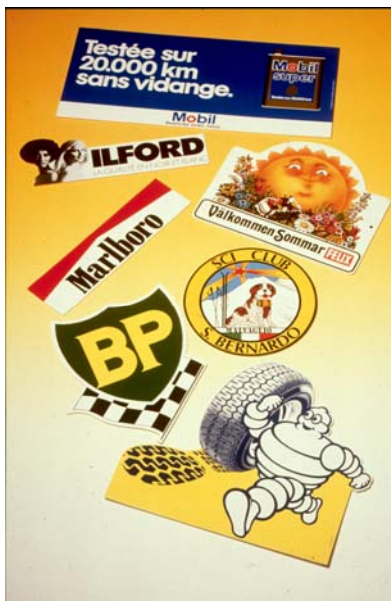
- Cutting through is done on a platen press. Normally a double bevel die-cutting form and a hard back up are used.
- Kiss-cutting leaves the backing paper intact, the material being cut only through the face stock and the adhesive layer. Either a platen press or a cylinder press can be used.

**Special care has to be taken when die or kiss-cutting in printed areas.** The ink layer has to be completely dried out. Insufficient drying will result in "**edge-lifting**". In particular filmic materials still retaining inks solvents before cutting may show edge-lifting due to tension in the printed area or excessive shrinkage.



#### Die-cutting of filmic self-adhesive materials

- Use a **vertically polished** double bevel die-cutting tool.
- The steel rules should be sharp, undamaged and made of a hardened steel quality.
- Each individual cavity, corresponding to the shape of the label, will of necessity have at least one join, where the two ends of the rule meet.  
To work effectively, these joins must be almost invisible. If not, the label edges, will not be accurately die-cut (i.e. either the die-cut will be too deep and damage the backing paper or the label will be partially uncut and therefore impossible to remove easily from the backing paper).
- To obtain a clean cut, it is important that all individual steel rules have the same height.
- Each cavity has to be assembled individually in the die-cutting tool. This is necessary to facilitate the cutting action and make due allowance for adjustment possible on the press.
- The assembly of all the component parts of the die-cutting tool into the wooden block should involve only a minimum amount of pressure - certainly not hammering. A well-made tool will assemble by finger pressure only.



- The fully assembled die is rubbered with ejection rubber within each of the cavities. The ejection rubber protects the sharp edges when the die is not in use and facilitates the up and down movement. (counter pressure) by keeping the self-adhesive material in place.
- After use, die-cutting tools should be properly cleaned to make them ready for the next job. Paper dust and adhesive residue should be removed, the die should be inspected for eventual damage with a magnifying glass.  
Store the die on a flat surface and in the horizontal position.