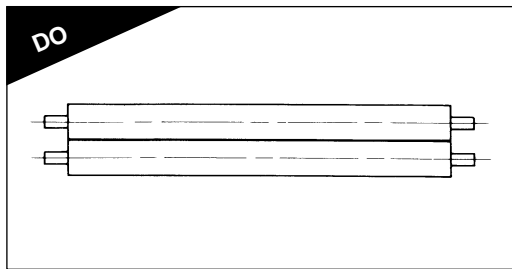


# 3M Technical Bulletin

## Lamination Techniques for Converters of Laminating Adhesives

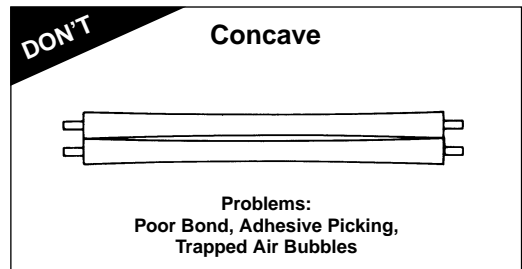
### Roll Condition



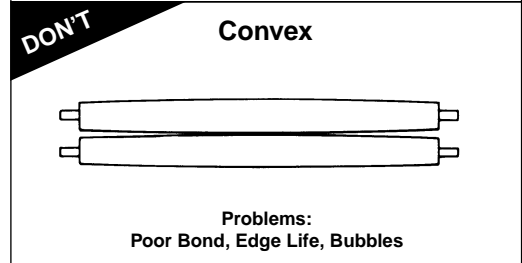
Smooth, clean, parallel, properly adjusted pressure.

Good lamination must start with nip rolls in excellent condition and adjustment. The upper and lower rolls should be smooth, clean, parallel, and have left and right side pressure adjustability.

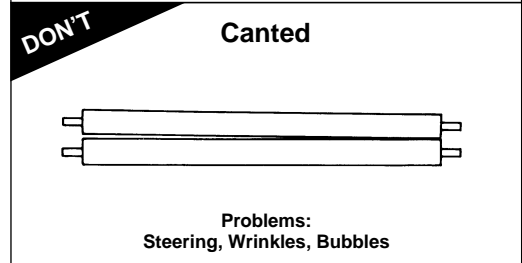
Concave, convex, or canted rolls will cause problems such as poor adhesion, adhesive picking, lifting, wrinkling, trapped air bubbles and web steering difficulty.



Problems:  
Poor Bond, Adhesive Picking,  
Trapped Air Bubbles

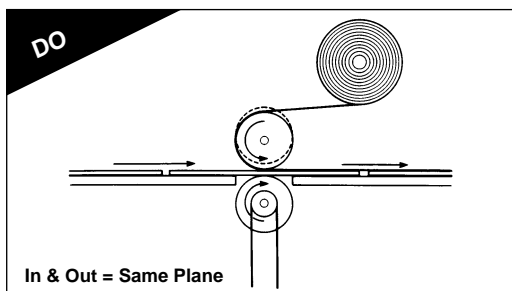


Problems:  
Poor Bond, Edge Life, Bubbles

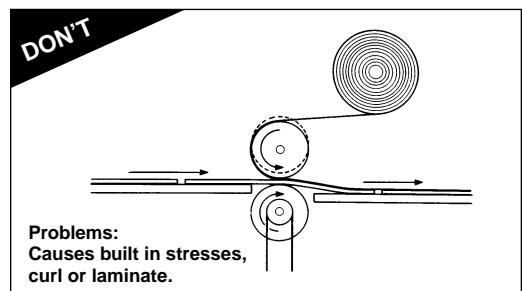


Problems:  
Steering, Wrinkles, Bubbles

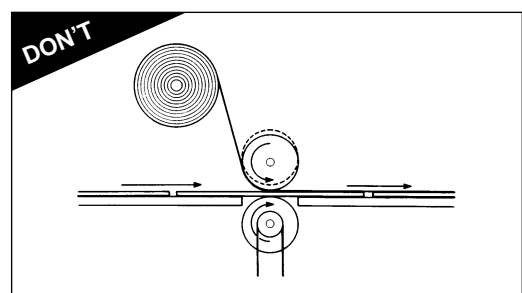
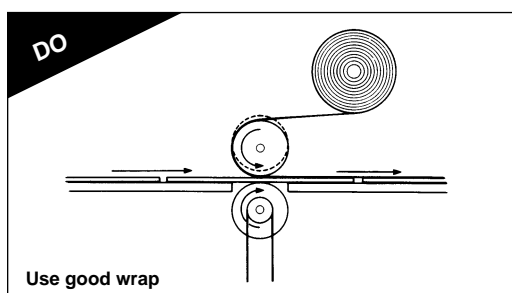
### Feed – In & Out



The in and out feed tables must be at the same level or plane and should be of adequate length to hold at least one sheet of substrate. There will normally be curl stresses if the out feed table is positioned as shown above.



### Thread Up – Roll Wrap



It is also very important that the roll of laminating adhesive be threaded into the machine so that there is a good smooth wrap around the rubber roll. This will smooth the adhesive and liner and prepare it to be laid down on to the substrate. A lesser degree of roll wrap will not accomplish this and wrinkling and bubbling may result.