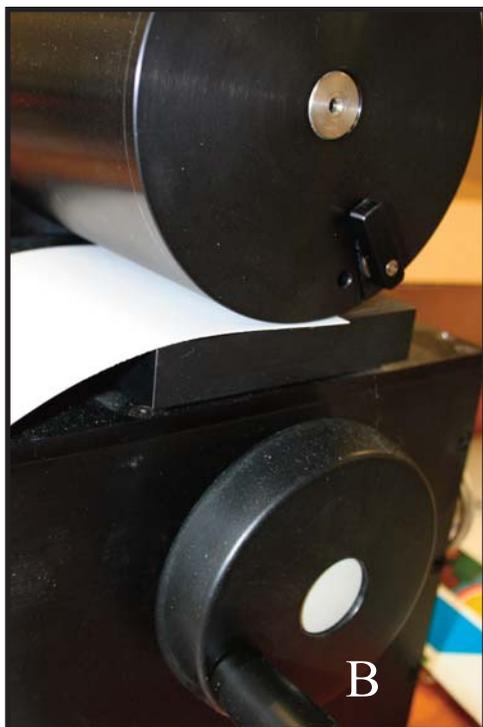


Delamination Testing (Ply Separation on a Sheetfed press)

The separation of the plies of a board when printed on an offset press is sometimes referred to as blistering, but we call it “delamination”. See Figure “A”.

This defect can be tested in the lab, using two processes.

1. The first is to stress the board as it would be stressed going through the printing press. Since different presses have various size blanket, transfer and impression cylinders, they place varying amounts of stress in the sheet by flexing it back and forth around the cylinders. The more the board is flexed, the greater the chance for the interior bonds of the fibers in the sheet to be broken. This in turn, weakens the internal bond of the fibers, and makes delamination on press more likely.



Flexing is done on a laboratory unit called a flexor, which bends and squeezes the sheet. (Figure B) The board is forced to flex in one direction, and then the direction of the upper roller is changed to bend the sheet in the opposite direction, simulating how it would travel through a press.

2. The second step is to take the flexed sheet and print it on the TestPress (See photo on equipment page) A high tack cyan ink is used, at the standard ink film thickness of 0.05 mil film thickness to the paper on the first print. The sheet is printed every 10 seconds, 4 times. The print is removed and inspected for delamination. This is a pass/fail test. If delamination is seen after the 4 passes, this is failure.

Additional prints can be done for comparison and inspected after 1,2 and 3 passes if desired.