

# DELAMINATION



Delamination is also known as “bubbling” in practice. The different negative influences of the cartonboard between the cover and the underliner or the underliner and the insert are removed.

## Problem

**Ink is too quick (= sticky)**

Delamination can occur in the inking system when the ink splits at the perforating angle of the printed sheet (see diagram).

Printing ink sets off too quickly causing bubbles in the following units (increases with in-line technique) because the ink is already too sticky.

**Cartonboard surface is too cold (less than 18° C)**

Measurement using a hygrometer with a temperature display.

**Printing machine is too cold**

During the course of the day or after being inactive for a long time, short-term partial bubbles can appear. This disappears after a few sheets.

**Rubber blankets are too sticky**

Eg. old rubber blankets, unsuitable detergent used for washing or reclaimed rubber blankets. Detergent used incorrectly.

**Strength of cartonboard is too low**

## Solution

- Printing ink (short-term in the printing machine)  
Mix 5 - 10 % oil or thinner with tack reducer. Warning: dot gain!
- Printing ink (long-term from ink suppliers)  
Set more slowly. Set colour series for cartonboard printing
- Printing machine (where possible)
  - Lower the flow of water slightly, colours become whiter
  - Reduce the print supply as much as possible
  - Slow the printing speed

- Printing ink (short-term in the printing machine) see above
- Printing ink (long-term from ink suppliers) see above
- If technicolour is too low, add transparent white

- Make sure the packed cartonboard is suited to the temperature in the printing room  
In winter this can last several days. Ideal temperature: 18 – 22°C

- Where available, use inking system tempering  
or let machine run with no load or warm up for a short time using waste paper.

- Swap rubber blankets for new, less sticky ones
  - Replace with quick release rubber blankets.
  - Change detergent and/or reclaimed rubber.
  - Use detergent according to manufacturer's instructions.

- Reduce ink speed especially in the first units by adding tack reducer, see above.
- Check cartonboard and warm up if necessary using a no-load run. Lower printing speed.
- Change cartonboard if all the measures explained here do not solve the problem.

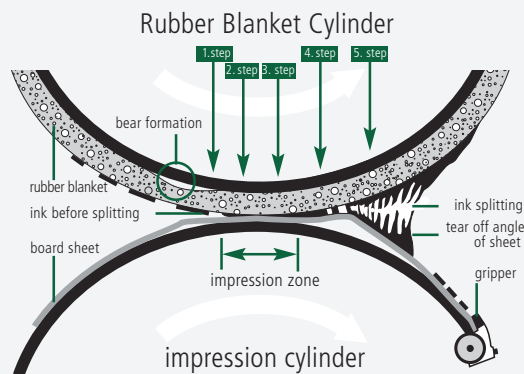
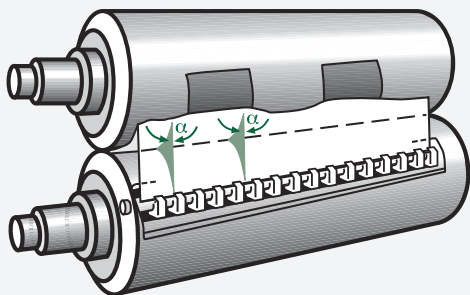


Diagram of the perforating angle  $\alpha$  between the sheet and the rubber blanket



According to the state of the rubber blanket surfaces, the colour transfer, the ink-water relationship of the cartonboard surface and the printing speed, different perforation angles are produced on the printed sheet.