

Precautions to take to avoid cracking of corrugated fiber boxes

Cracking is predominant in all size press based kraft paper during low humid conditions. The following precautions need to be taken during the manufacture of corrugated cartons in the summer during which the humidity is low in a semi-automatic corrugated box manufacturing plant.

01. Pre-folding of flaps in wet condition:

After pasting of the board in the pasting machine the board has to be taken up for immediate converting operations such as creasing and slotting or punching. Furthermore the board to be immediately joined by stitching or gluing. After the box is formed, the flaps of the box should be pre-folded both on the inside and the outside in wet condition (moisture > 11%). There should be no delay of more than couple of hours between these converting operations. If the pre-folding is not done in wet condition the flaps are bound to crack at the customers end when it becomes hard and stiff, more rapidly during the summer. During summer, the slotting/punching pressure should be slightly more than that during the winter for easier pre-folding of the boxes. In addition, slightly excess glue to be applied during pasting/gluing process of the board to delay quick drying of board.

02. Strengthening of the outer layers of the box:

Cracking problem is more predominant in the 5 ply or 7 ply boxes where the box wall tends to be more rigid. The design specifications of the box can be modified to suit the conditions in the summer as follows:

If the 5 or 7 ply box is of same GSM and BF in all layers, then the specs to be modified such that the inner layers are of low gsm and low BF and the outer layers are of high gsm and high BF. For example, if it is a 5 ply box with all layers of 140 GSM 14 BF, then the specs to be changed such that the top and bottom layers are of 150 GSM 16 BF, and the remaining inner layers are of 120 GSM 12 BF. The compression will meet the requirement as the kraft paper tends to be stiffer and rigid during summer due to quicker drying.

03. Usage of CFL (Crack Free Liner) grade kraft paper:

If the above two solutions are not meeting your requirements, Venkraft has launched a guaranteed CFL (Crack Free Liner) kraft paper which is available from 18 BF and 120 GSM onwards. This CFL paper is recommended to be used on the outer layer and also on the inner layer in case you need to avoid cracking on the inner crease lines of the box. This paper is costlier than the regular paper due to costly raw materials that are being used. CFL is available from 18 to 24 BF. In selecting the CFL BF and GSM, the customer must ensure that the BF and GSM of outer layers are higher than the BF and GSM of the inner layers.

04. Corrective Action:

Beyond all these precautions, if the board has cracking issue, Wipe the creasing side of the board (both on top and bottom) with wet cloth to increase the moisture on crease of the board and try folding it first on the regular side and then later on the opposite side. This corrective action will eliminate the cracking issue.

If you still need further clarification regarding cracking problem please contact our marketing coordinator. In addition, if you have any queries on CFL kraft, please contact our marketing coordinator of the kraft unit.

Assuring you our best quality and service at all times.

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