

Automated Folding-Gluing of Click-Lock Cartons

By ITC Limited - Packaging and Printing SBU | Category: Most Innovative Supplier

Click-lock design in packaging offers consumers a unique experience during their interaction with the pack. Upon every open and closure of the pack's lid, the consumer hears a click sound with a feel of unlock and lock. This is a popular concept being used for TGBL tea bag variants. The design of this carton involves complex ear-flaps - some of which have a high resistance for pasting on machine, while some are not possible to paste on any conventional gluing and pasting machine in this industry.



The Innovation

Considering that this packaging design is the brand's USP offer to the consumer, the pasting of these complex flaps has been manually done at packaging converter end for several years. The ITC Packaging team, including shop floor workmen, looked at the challenges involved with manual operations for these complex flaps and came up with two innovative automated solutions addressing each of the two challenges as explained below. Both these solutions are an outcome of extensive experimentations and have been filed for IP.



Overcoming Challenges

THE MANUAL PRE-BREAKING AND EAR FLAP PASTING PROCESS INVOLVED SEVERAL CHALLENGES PRIMARILY THE INABILITY TO SCALE-UP, MAINTAIN CONSISTENCY AND QUALITY.

Challenge 1: Pre-breaking fourteen creases in the packaging design - Manual process

The design required pre-breaking of all flaps before-hand so as to be able to paste on to the packers. This process was carried out manually. Taking automation into consideration, the process has been redesigned to modify the capability of a folding and gluing machine to simultaneously pre-break fourteen creases.

Challenge 2: Pasting of ear-flap below the liner bag

The packs with integrated liner bags have a different challenge of a complex ear flap positioned below the liner bag leaving no opportunity to fold and paste using conventional pasting machines that are sequenced after the liner bag assembly operation. Hence, this was being manually pasted. The process has now been redesigned to simultaneously fold and glue the ear flap before liner bag assembly.

Impact of the Innovation

