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Research area: Process aims

Process measuring and control technology // Other

Key words:

Folded box, pharmaceuticals, Braille, embossing, testing, image analysis

Title:
Enhancement and automation of the Braille testing systems for new application fields and production-related employment

Background/Problem area

Since September 2006 folding cartons of pharmaceuticals have to be labelled also in embossed printing. For the testing of embossed printing the PTS has developed two different testing systems in the project IW 060109. The BrailleTester Standard is designed for the fast, robust and cost-efficient testing of the presence of the embossings. The BrailleTester Advanced can be used to measure additionally the height of the embossings.

The surface of the folding cartons must not break during the embossing process for aesthetic reasons. Considering this the maximum height of the embossings range between 200 and 300 µm. This does not satisfy the expectations of the blind people associations. So new procedures have been developed:

- Screen printing with fast curing glues
- Selective UV irradiation of expanding lacquer

These procedures can be applied directly to the folding cartons or on transparent adhesive labels. The printing consists of a transparent material and does not damage the optical aspect of the packaging.

Objectives/Research results

The objective of this research project is the enhancement of the existing testing systems for new application fields:

- Embossing tools (especially the male parts)
- Printing with transparent materials

Another aim is the automation of the testing systems. Therefore the following issues are important:

- Automated sample feeding
- Automated spraying if necessary (only advanced system)
- Optimization of time consumption for image acquisition and analysis
- Minimisation of operator control actions

Application/Economic benefits

The manufacturers of folding cartons for pharmaceuticals and the producers of printed Braille on adhesive labels require an automated system to test their products to assure the quality and correctness. Furthermore, the pharmaceutical industry needs a system to test the correctness of the embossed cartons and labels before they use it in the packaging machine.

Additionally Braille labelling is used for other products beside pharmaceuticals such as cosmetics and food packaging.

In all cases an automatic testing system will lead to an increased working process velocity with a higher reliability.

Project period: 01.01.2008 – 31.12.2009

Remarks

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