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Research area: Product aims

End products made of paper, paperboard and board // Print products

Key words:

flexographic printing, adhesion, surface tension, wetting

TITLE:**Appropriate test methods to characterize flexographic substrates for improved ink adhesion and printability (Flexinad)****Background/Problem area**

Manufacturers and purchasers are increasingly favouring multi-colour printed, lavishly designed packaging, especially with a view to marketing aspects. In addition to traditional gravure and offset printing, flexographic printing is gaining considerably in importance in some areas for reasons of cost and flexibility. With the further development of flexographic printing in the past few years, this method also offers the great advantage that widely varying materials and finishing processes can be provided with high-quality prints. This, however, is exactly where one of the major problems arises, viz. many possible combinations with a wide range of properties, although up to now these properties have in no way been specified for flexographic printing.

Objectives/Research results

The research project is intended to develop practical methods for users, especially in the flexographic printing and packaging sector, to help them avoid adhesion and printability problems caused by insufficient wetting and adhesion to substrates. The project objective is to better match the components substrate, printing ink and printing process with a view to improving print quality in flexographic printing.

It is planned to execute the research based on the different measuring methods already available on the market, use them on the different materials and their treatments. These results will be compared to the printing results by proof printing and the measurements by the low cost instruments as normally done by the printer. It will be investigated which print defects, related to wetting and adhesion, can be predicted. With the data gathered during the research phase, a database of known problems and the ways to solve them using measurement methods suitable for print shops will be created.

Application/Economic benefits

The project will result in reliable and repeatable test methods for surface wetting and adhesion. Print shops will derive great benefits from these developed measurements procedures. Set-up times for printing presses will be reduced and the production print run can be better controlled. The quality of print products will increase significantly, delivery times can be guaranteed and customer needs will be met. Print buyers will benefit, because the final print will comply with requirements and other after-press handling like folding, cutting, gluing, filling, packing, storage etc. will cause fewer problems.

Period of time: 01.05.2012 – 30.04.2014

Remarks

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