

R2R gravure for smart packaging; printed RFID, sensor and signage on plastic foils

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R2R gravure is the fastest and finest printing method for printing graphics, letters or any image on flexible substrates such as metal foils, plastic films and paper sheets. By employing the R2R gravure system, electronic devices with simple functions could be printed on the flexible substrates with a high throughput to resolve the limit of the ultra-low cost, highly demanded for the realization of ubiquitous IT. In this presentation, the details of differences between normal media printing and printing electronic devices will be discussed using the examples of fully gravure printed RFID tags, sensors and signages on plastic films. Especially, the rheological characteristics in gravure printing will be correlated with the shown electrical properties of printed electronic devices. Furthermore, the prospect view for the markets of smart packaging will be briefly presented.