

# DELO

## PRESS RELEASES

### **Mühlbauer, Intune and DELO start RFID research project**

Adjusted RFID system solutions in the focus

Windach, February 20<sup>th</sup>, 2008: RFID is gaining momentum – in 2007 more than 3,000 RFID projects were implemented worldwide. For 2016, the global RFID market is predicted to reach a potential of more than EUR 20 billion. In particular, cost-saving and efficient production methods of smart labels are becoming increasingly focused. Therefore, DELO Industrial Adhesives and Intune Circuits, a Finnish manufacturer of RFID antennas, started a research project, supported by Mühlbauer AG as the market leader in smart label production lines. The objective was to investigate for a 'turn-key'-solution in the manufacturing of smart label inlay and to provide complete and harmonized solutions in the RFID value chain.

The compatibility of the different components like antennas, adhesives and machines in inlay production was extensively tested in DELO's research laboratories and at Mühlbauer over several months. There, high requirements had to be considered: First, the adhesive had to be compatible with the antenna lamination and the semiconductor chips. Mechanical properties were tested in several laboratory tests and different climatic tests were carried out to simulate the lifetime of a bonded connection between antenna and chip. Moreover, adhesive processing on the respective production systems must be smooth and the adhesives must cure fast in the thermode process to contribute to effective production. In the thermode station, the adhesive is cured and the chip is pressed onto the antenna to ensure electrical contacting.

The result: The tests prove that heat-curing epoxies like DELO-MONOPOX MK055 and DELO-MONOPOX AC265 are best suitable for bonding onto aluminium UHF antennas of Intune. The aluminium antenna substrates used in the tests represented Intune Circuits standard Product Group 102. Both products can be processed optimally on Mühlbauer's production system. Thus, the three partners have developed a plug-and-play solution for the market enabling efficient production of RFID inlays.

**About DELO:**

DELO is a leading manufacturer of industrial adhesives with its head office near Munich and 200 employees. The company provides tailor-made special adhesives for applications in all lines of business – from electronics to the chip card and automotive industry as well as in glass and plastic design. DELO's customers are, for example, Bosch, DaimlerChrysler, Festo, Infineon, NXP (formerly Philips) and Siemens. In the financial year 2006/2007 the company gained a turnover of Euro 27 million. DELO has a network of worldwide distributors and sales partners.

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Illustration 1: Smart Inlay

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