New RFID Products for Coping with Metal

FAT tags are designed to work well on metal parts, and a new reader can be installed under metal conveyors.

By Beth Bacheldor

June 29, 2006—Two new products aimed at reducing the impact of metal on radio frequency identification systems have hit the market. ADASA, a Eugene, Ore.-based start-up that makes reusable RFID tags, has announced a new tag designed to be used on metal parts and products with liquids. In addition, SAVR Communications, an Irving, Tex.-based provider of RFID systems, has introduced a new RFID reader designed to be mounted under metal conveyor systems.

ADASA's new "Foam Attached Tag" (FAT tag) is based on EPCglobal's second-generation Electronic Product Code (EPC) air-interface protocol. It features a passive UHF 4-inch-by-1/2-inch tag attached to a layer of foam, which creates distance between the transponder and the metal or liquid products. Metal and liquids can detune an RFID transponder's antenna, greatly reducing the distance from which it can be read, while liquid absorbs RF signals.

Foam solutions have been available for some time, but Clarke McAllister, ADASA's CEO, says current solutions require companies to print a smart label, peel the backing off to expose the tape and reattach it to foam, then apply the foam to the products. The FAT tags are designed to work with ADASA's PAD3500, a Gen 2 mobile RFID encoder announced in March (see ADASA Developing Wearable Tag Encoder). The PAD3500 uses what ADASA calls a SmartCartridge that holds RFID inlays. The cartridge can hold about 40-50 FAT tags or up to 500 1-by-4-inch non-foam tags, according to McAllister.

"We take a customer order requesting the type of foam, the thickness of the foam, and the spacing of the tags, and the converter company [ADASA partners with] builds the tags to those specifications," McAllister says. "Then we take those FAT tags and load them into the cartridges."

ADASA developed the foam-attached RFID tag to meet the needs of the aerospace and automotive industries that work with metal components and liquid containers. The FAT RFID tags will be generally available for use in the PAD3500 by October. Pricing is dependent on the type and thickness of foam.

SAVR Communications' new Under Conveyor RFID Reader is designed to be fastened underneath conveyor systems without the need to modify, remove or replace any metal components in the conveyor. Metal can interfere with RF waves, so companies often have to rebuild conveyor systems using plastics rollers when installing RFID readers underneath.

SAVR's new reader operates at 13.56 MHz frequencies. Each reader is built with a custom antenna based on the customer's conveyor roller and hardware profile. The antenna can be optimized for specific environments and supports read ranges of up to eight inches. Available now, the reader supports ISO 15693 and Phillips iCODE tags.