

Blyth Aims to Add RFID to Its Shipping Operations

The candle company is preparing for Wal-Mart's tagging mandate by testing and designing an integrated RFID tagging system.

By Mary Catherine O'Connor

July 6, 2006—Blyth sells candles and other decorative home goods, as well as Sterno cooking fuel. This coming New Year's Day, the company plans to meet Wal-Mart's RFID tagging mandate by applying RFID tags to all cases and pallets of consumer goods it sends to three of Wal-Mart's five RFID-enabled distribution centers. Part of the third wave of suppliers coming under the RFID mandate the retailer announced in 2004, Blyth is getting a jump on testing and piloting an RFID tagging system today. The firm hopes to integrate compliance tagging as much as possible into its current shipping operations, and to make sure the technology is optimized before it begins sending tagged shipments to Wal-Mart, one of Blyth's primary customers.

The candle business is challenging from a margins perspective," says Oleg Troyansky, Blyth's vice president of information systems, "so we have to work hard to earn profits." Regarding Blyth's efforts to meet Wal-Mart's tagging mandate, he says, "Our challenge is: How do we add this capability and still remain profitable?"

To light its path, Blyth has enlisted the help of RFID systems integrator ODIN Technologies, a Reston, Va., firm specializing in testing and optimizing RFID equipment to function in environments that interfere with RF signals.

Currently working through the design stage of the tagging system, Blyth and ODIN have started preliminary testing to compare the performance of EPC Gen 2 UHF passive RFID inlays from a handful of manufacturers on cases of various Blyth products. Because Wal-Mart has not yet provided a list of the SKUs the company will need to tag, Blyth has tested tags on a cross-section of its products—not only candles but also candle oil and some home goods containing metal, a known source of RF interference. While Blyth anticipated interference problems with the liquid or metallic materials used in some products it supplies to Wal-Mart, that has not been the case thus far. Rather, Symbol's Trident EPC Gen 2 tag has proven readable on all cases of Blyth product tested, according to Patrick Sweeney, ODIN's president and CEO.

ODIN has not yet selected which EPC Gen 2 interrogators (readers) will be used for the deployment, but it has worked with Blyth to establish a tagging system able to run in parallel with the candle maker's existing order-picking and shipping processes. To pick orders, employees at Blyth's distribution center carry shipping labels and a pick list throughout the center, pulling and labeling the cases to fulfill the order, and building pallets of cases on a motorized pallet jack. (Full pallets of single products are pulled separately.)

Once completely pulled, the orders are verified and loaded onto a trailer. For orders requiring RFID tags, Blyth employees will follow a similar process. They will retrieve shipping labels from RFID label printer-encoders, apply the RFID labels to the cases of goods as they are pulled, add another label to the pallet

of tagged cases once it is built, and use an RFID interrogator, rather than a bar-code scanner, to verify the order by reading the pallet tag and comparing it with the order.

Blyth also plans on adding steps to the order-picking process for shipments requiring RFID tags, and Troyansky believes the new steps will improve Blyth's order accuracy. Right now, each picker gauges the number of cases he has picked, based on the number of shipping labels he placed on cases, but once an order is picked, there is no way to trace specific cases to specific pallets. If there is an error—if, say, the picker pulled and labeled the wrong cases to fulfill an order—there's no way to know that, nor to know which pallet is carrying the wrong cases, unless that pallet is one of the few that are diverted to a quality-assurance inspection. With RFID-tagged cases, pickers will carry RFID-enabled handheld computers when pulling orders and labeling the cases. They'll use the handheld to create a manifest of all of the RFID labels attached to cases on each pallet. This manifest will later be linked to the unique ID encoded to the pallet's RFID label.

The pickers will also use the handheld to perform checks as they pick each order. As they pull the first case of a particular product, they will use the bar code scanner on the handheld to read the bar code printed on the case. They will then use the handheld's RFID interrogator to read the RFID inlay in the label before they apply it to the case. If the product global trade identification number (GTIN) read from the bar code doesn't match the GTIN in the RFID label's EPC, the handheld will send him an alert. If the GTINs do match, the picker will pull the rest of the cases of that product and apply RFID labels to them. Once he is done picking all the cases, he will use the handheld's RFID interrogator to count the tagged cases on the pallet (it would take pickers too long to accomplish this by scanning each label's bar code). If the number of labels read on the pallet doesn't match the order, the handheld will send him an alert.

Orders requiring RFID tags on cases and pallets will be flagged by Blyth's warehouse management system software—which it developed in-house, and which receives orders from the Movex enterprise resource-planning platform the company uses. The company plans to purchase [Zebra Technologies](#) RFID printer-encoders, and to send the label print commands for the flagged orders to those devices.

Blyth says it will begin applying tags to some goods headed for Wal-Mart in October, and expects to be fully compliant with the retailer mandate by Jan. 1.

According to Troyansky, Blyth picked ODIN to help it design and deploy its RFID system because the integrator could build a solution to meet Blyth's needs and because as a vendor-neutral company, ODIN didn't have any hardware or software biases. Blyth also chose ODIN because it didn't simply advise Blyth to "add an extra conveyor system [to its distribution center] and hire some extra labor" to comply with the mandate. In Blyth's view, that would have added operational cost, without integrating the tagging process into its current shipping processes. Moreover, Troyansky says, he likes the testing processes ODIN offers. "In ODIN, we found a scientific approach, versus a trial-and-error approach," he says.

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