



PACKAGING



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THE VERY BEST FOR YOU.

## Innovative double functionality

### Secure packaging for Rotbäckchen

Haus Rabenhorst O. Lauffs GmbH & Co. KG

 **Nordson**

# Secure packaging for Rotbäckchen

Haus Rabenhorst, a producer of fruit and vegetable juices, achieves a high level of stacking secureness on its shipping pallets with two short hotmelt beads on every outer carton of bottles.

## The Challenge

It is a matter of great importance for Haus Rabenhorst O. Lauffs GmbH & Co. KG to prevent transport damage to their fruit and vegetable juices during the delivery process. As an efficient alternative to the anti-slip intermediate layers, stacking secureness is achieved on shipping pallets by applying anti-slip adhesive on the top of the carton of bottles. This is implemented and monitored by using Nordson's innovative EcoBead Inspect system.

This attention to intralogistics is entirely understandable given the high quality of the products. Located in Unkel am Rhein, the company was founded in 1805 by Johann-Heinrich Lauffs as a winery close to today's headquarters and is still a 100-percent family-owned business. Over the years it has acquired an excellent reputation as a producer of premium fruit juices. The basis for this success goes back to 1898, when the company – using the recently discovered process of pasteurisation – was the first producer in Germany to introduce non-perishable grape juices to the market. Another milestone in the company's history is the introduction of the classic children's drink „Rotbäckchen“ (redcheeks) in 1952.

Today this company steeped in tradition has about 200 employees working on the Rabenhorst and Rotbäckchen sales channels and offers a broadly diversified, continuously expanding assortment of about 120 types of fruit and vegetable juice, some originating from certified organic cultivation and others from locally sourced contract farming. Over 40 million bottles leave the production site every year. Rabenhorst and Rotbäckchen juices are sold in 40 countries around the world, as far away as China. Based in the German state of Rhineland-Palatinate, the company has an especially strong presence in the Hungarian market with the Dr. Steinberger brand. In addition to grocery retail, the main sales channels are primarily health food stores, organic shops and drug store chains, but also pharmacies and online commerce.

## High-quality, sensitive freight

A quick look at store shelves is all it takes to understand how costly a fully loaded shipping pallet is. A typical pallet with a five-layer structure has 24 outer cartons, each of which contains six 0.75- or 0.7-litre bottles. That makes 720 bottles shipped on every pallet; which means that the contents are valuable and must be handled carefully. To achieve the necessary stability for transport, adhesive has therefore already been applied to the cartons in Rabenhorst well before shipping to protect them against slipping.



## Close collaboration in the field of adhesive technology between Rabenhorst and Nordson

Cold glue was used for this initially. It did not achieve the desired effect, however, as Christian Dünker, Technology Manager of the Unkel plant, explains: „Often it happened that the gluing broke, which resulted in expensive transport damage. We therefore decided to switch to hotmelt and made use of the experience of Nordson, which recently developed a perfect system for controlling the gluing. For an ideal combination, we also found an adhesive supplier that offers a special anti-slip hotmelt with the desired properties to ensure long-lasting adhesiveness.“

Two innovative Nordson EcoBead Inspect systems have been added to operations since last year – installed in a separate station after the outer cartons are glued – in parallel on the outlet conveyor for palletising. They are used to apply two adhesive beads approx. 11 cm long and spaced about 15 cm apart on the top of each carton – a relatively simple process by itself, which could be mastered using a conventional approach.

## The Solution

### Innovative double functionality

What is special about the functionality of the EcoBead Inspect configuration, which in addition to the application head consists essentially of a special controller and a sensor head connected with the applicator, is its double functionality. Designed both for generating application patterns and verifying adhesive, the system allows for stitching (forming interrupted beads instead of continuous ones to save material) as well as exact verification of the presence and position of the hotmelt strip. This second option is especially important for Haus Rabenhorst. Practical implementation proved to be very straightforward. Each of the sensors, which are fastened directly onto the application heads in a simple manner by means of drop-in installation, is assigned to an EcoBead controller. The controllers are mounted on each side of a traverse frame.

The signal for the adhesive application valve, which is passed through by EcoBead, is the only input pulse required. An installed laser pointer helps to align the sensor head and increases inspection accuracy. A combination of photoelectric cells and infrared sensors is responsible for the adhesive check and determines how the product is represented. Pneumatically operated applicators of Nordson's proven MiniBlue II series are responsible for the actual adhesive application. They are supplied by a conventional ProBlue melter size 4.



The various components of the EcoBead Inspect system with the controller (bottom left) and the sensor head, which can be seen on the right

### Damage rate significantly minimised

The reason why the option for stitching and the significant potential for saving adhesive – up to 60% – that comes with this special application was not used is the priority given to the safety aspect. Christian Dünker is nevertheless impressed by the cost-effectiveness of the EcoBead Inspect system and explicitly emphasises the good collaboration with Nordson Deutschland,

specifically with the Area Sales Manager of the Erkrath-based company René Bartsch: „We were primarily concerned with minimising in-plant transport damage, since the great majority of completely loaded pallets go first to buffer stock. This was fully accomplished with the use of accurate hotmelt gluing. The error rate, in other words broken glass or carton damage, was reduced so much that the investment paid for itself quickly and will achieve a significant cost advantage in the long term. To err generously on the side of caution, the fourth and fifth layers of the pallet are also fixed in place with straps and wrapped with stretch wrap again before they finally leave temporary storage. As another plus for the customer, the cartons are easy to lift up for unstacking and come loose again easily and with no damage.



Two hotmelt beads approx. 11 cm long – colored blue in the photo for better visualisation – ensure non-slip palletising (photo: Kimberly Wittlieb)



## PACKAGING

Nordson application and verification technology helps efficiently apply adhesives to meet both form and function for a wide variety of packaging applications: sealing, attachment, confectionary and small pack, tray making, palletizing, siftproof/tamper evident/braille applications and labeling.

Packaging applications are often judged equally by how they look and how well they perform, so application systems must apply the right amount of adhesive to be structurally sound and without messy stringing, tailing or squeeze out. Whether using hot melt or cold adhesives, Nordson is a world leader in packaging and converting application technology.



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## Why Nordson



### Global

Supporting and collaborating with customers worldwide.



### Business Scale

Extensive capabilities to deliver on customer promises.



### Value Innovation

Consistently creating customer value with innovative technology.



### Direct

Direct offices in over 30 countries with local application experts nearby to help.

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