**Market Trend**

Producers of disposable hygiene articles continue to pursue opportunities to reduce costs in order to gain a competitive edge and maximize profitability. One focus is to accomplish as much “in-line” as possible, that is as part of the production machine. In-line coating of frontal tape as used as part of the closure system on baby diapers is one example. Historically these tapes would be introduced to the production line with a previously applied adhesive backing. The trend for the past few years has been for producers to adhere the tapes to the product chassis through in-line application of hot melt adhesive on the production machine.

**Application Description**

The frontal tape is generally applied to the baby diaper back sheet to provide localized strength to the frontal area to act as part of the closing mechanism of the diaper. Typically the material is either a flat film (for use with adhesive backed closures) or a loop style (to be used with a hook style closure) that allows easy closing and opening to allow for inspection of the condition of the diaper as well as to ensure a proper fit. The frontal tape is often printed with colorful graphics to enhance the appearance of the product and to indicate the front side of the baby diaper.

**Benefits of the Application to Consumer/End User**

- Potential cost reduction vs. pre-laminated material
- Flexibility in use of materials
- Supports product differentiation and flexible manufacturing

**Why Use Nordson Equipment?**

- Nordson’s experience and proven expertise in material delivery and high-speed dispensing as reflected in a large, global installed base of applications on baby diaper, adult inco and femcare machines.
- Flexible system layouts adapt to current production layouts and can accommodate future requirements.
Typical Application

The adhesive is always applied to the frontal tape material prior to cutting and positioning on the diaper. Since the tape length (machine direction) per diaper is only approximately 40-50mm or 1/10th the product length, the resulting line speed is very low; approximately 20-60m/min. The width of the tape (cross web direction) varies by the product size but is generally between 140-180mm. Adhesive add-on is, depending on the materials used, in the range of 8-15g/m². These applications are normally continuous to ensure the tape is fully coated and properly adhered.

Nordson Equipment

A typical system configuration is:

Melter

VersaBlue® Plus or AltaBlue™ Touch melter
- Typical holding capacity: 25 or 50 liter (depending on adhesive consumption)
- 1 gear pump SN0093 up to SN0773
- 1 TruFlow™ closed-loop control channel
- Additional heating zones (depending on system configuration)
- Remaining configuration depending on customer requirement, which considers the installed base

Heated Hose

Frontal tape adhesives are compatible with standard Nordson hoses with a diameter of 8 mm.

Applicator and Nozzle

The application requires equal adhesive distribution, especially over the product width, to ensure proper bonding and function. The recommendation is to use a continuous TruFlow applicator.
Frontal Tape Application Bulletin

**Recommended Action**

This document has been prepared to alert the field to an opportunity and to facilitate quoting of a Nordson solution. For system quotations or if you have additional questions about frontal tape application on disposable hygiene products, please contact your local sales representative.

**Contacts**

Andreas Bornkessel  
**Market Development Manager - NW Europe**  
Lilienthalstraße 6  
21337 Lüneburg, Germany  
Email: andreas.bornkessel@nordson.com

Alan Ramspeck  
**Global Marketing Manager - NW**  
11485 Lakefield Drive  
Duluth, GA 30534 USA  
Email: alan.ramspeck@nordson.com

www.nordson.com/hotmelt