



Nordson Closes the Case on Hot Melt Adhesive Sealing

Compared to Tape, Sealing with Hot Melt Adhesive Lowers Long-term Operational Costs

Package sealing methods are
all the same, right? Wrong!



While both hot melt adhesive and tape are capable of creating a bond and sealing a case, only hot melt adhesive systems deliver superior:

- Cost Savings
- Safety
- Seal Quality
- Operation
- Structural Integrity
- Ease of Maintenance

And only Nordson makes the conversion from tape to hot melt adhesive sealing cost-effective and seamless.

The cost of different sealing methods can vary widely depending upon the length of the case, line speed, and the price charged per pound of adhesive or roll of tape. While tape sealing may initially appear to be less expensive, hidden long-term costs can quickly erode any perceived savings.

The “hidden” costs of tape sealing:

- Lost productivity and operator time replacing empty tape rolls.
- Increased material costs due to damaged or unusable tape rolls.
- Increased equipment expense by purchasing additional tape machines to keep up with increasing line speed demands.
- Increased downtime and associated parts cost with frequent maintenance of tape heads.

Tape requires special storage and handling:

- Tape cracks or loses adhesion properties in cold, hot, or humid conditions.
- Tape cores and edges damage easily during transport.

Hot melt sealing keeps up with increased production, reducing investment costs

Nordson hot melt systems can comfortably accommodate an increase in line speed without additional hot melt equipment. Sealing 40 cases a minute is as easy as sealing five cases a minute, and even random size cases can be sealed automatically without additional expense. Tape sealing systems are limited. As line speed increases, the tension placed on tape can cause it to break and buckle, slowing production. Increasing speeds usually require more durable, more expensive tape and tape heads or new tape systems.

Hot Melt

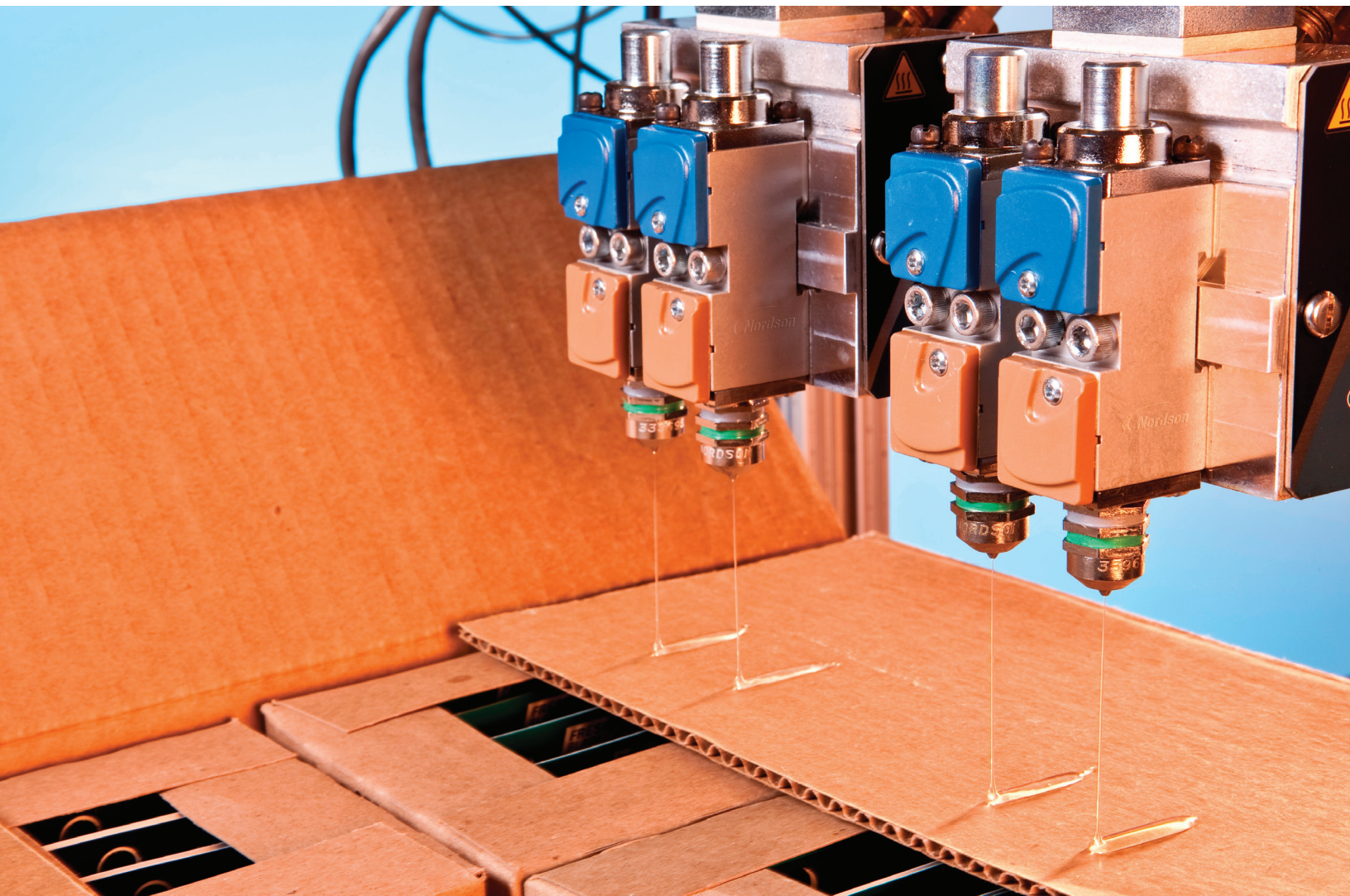
Adhesive = \$4.00 per 1,000 cases*

Tape = \$15.00 per 1,000 cases*

*based on mid-priced material costs



Hot Melt Adhesive Bonds Deliver Superior Structural Integrity and Seal Quality



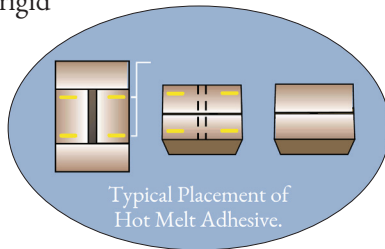
Getting products to market requires cases to withstand extreme temperatures and humidity changes, abusive handling, potential tampering, and rigid stacking and transportation requirements. Failure in one of these areas could result in damaged products and subsequent credit claims.

HOT MELT

TAPE

Structural Integrity

Hot melt adhesive, which penetrates the fibers of most board stock, is applied directly to case flaps, creating a robust and rigid bond resulting in a case that remains square and sturdy at all times.



Tape does not penetrate board fibers and only bonds the two external flaps, leaving the internal flaps loose, thus weakening the load-bearing capacity of the case, increasing the potential for costly product damage during transport.

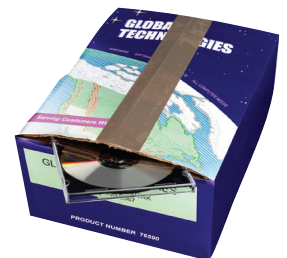


Tamper-evidence

Hot melt adhesive seals will cause the fiber to tear if an attempt to open the case before it reaches its destination, providing superior tamper-evidence and product protection.



Tape can be sliced with a knife. The products can be tampered with, and the case resealed without the consumer's knowledge. Tape provides inferior tamper-evidence and product protection.



Package Appearance

Hot melt adhesive seals are hidden under the flaps and provide a clear surface to display expensive company logos and promote brand images.



Tape seals detract from and cover company logos limiting the effectiveness of brand images and messages. Clear tapes are more expensive. Tape seals can produce a "fly paper" effect. Static inside the case charges corrugated and dust particles, which then attach to the adhesive packing on the tape seal. Retailers see this as "dirt" on the product inside and return the cases to the manufacturer.



Hot Melt System Design Innovations Simplify Operation and Maintenance

1



2



3



4

Nordson innovation makes using hot melt systems easier than ever

1. Spectra pattern controls detect changes in case size and adjust adhesive patterns automatically, maximizing productivity.
2. MiniBlue® II applicators and Saturn® nozzles deliver precise adhesive placement and clean material cut-off.
3. Easy-to-use electronic controls precisely maintain temperatures within $\pm 1^\circ\text{F}$, and large, bright LED displays provide a visual indication of system status. Optional onboard seven-day clock automates system start-up and shutdown, eliminating “warm-up” time.
4. The new ProBlue Flex with BBconn Controls offers increased insulation – a 13 to 28% reduction in heat loss from the ProBlue melter.

Advancements in adhesive formulation help reduce operational and material costs:

Breakthroughs in adhesive formulations by major adhesive suppliers deliver previously unheard of benefits including:

- Odor elimination.
- Reduce operating temperatures by 100 degrees.
- Extend pot lives up to 500 hours from 100 hours.
- Reduce equipment maintenance, increased production, reduced energy consumption, and reduce spare parts, all due to improved adhesive thermal stability.

Adhesive Technology in a Sustainable World

Sustainable practices are not only good for the Earth – they are good for the bottom line! Nordson offers an array of products to measure and reduce your adhesive use, and replace if needed.

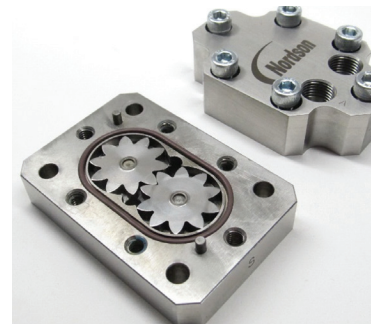
Nordson offers an array of products to measure and reduce your adhesive use, and replace if needed.

Measure

Use the Nordson Adhesive Tracking System (ATS) to measure adhesive consumption and optimize your process

- Determine and eliminate sources of variation
- Use Nordson high-precision nozzles
- Adjust for changes in adhesive properties

Right amount, Right place, Right condition...Every Time



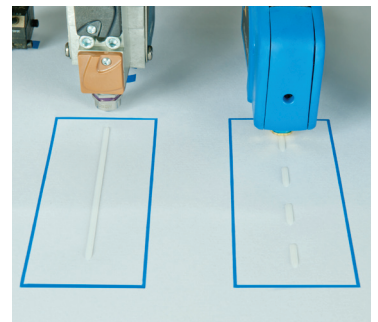
Reduce

Reducing material waste

- 2 square inches of adhesive will close an average size box compared with over 200 square inches of tape

Stitching to reduce adhesive usage

- Intermittent or “stitched” adhesive beads can easily reduce adhesive consumption without sacrificing package integrity
- Easily install a Nordson EcoBead® or EcoBead® Inspect device on an existing lines to stitch and verify stitched beads



Replace

More sustainable applications can be achieved with hot melt adhesive, for example Pallet Stabilization.

Stacking bags, cases, cartons, multi-pack and bottles provide slip resistance to each package, minimize shift load while more cost efficient adhesive by eliminating plastic wrap use and disposal cost.



Worldwide Service and Support

Nordson helps protect your investment with exceptional people, programs and service to keep your equipment in peak operating condition. For your satisfaction, Nordson solutions are backed by a Package of Values® that includes:

- Locally-available service network
- TrueBlue™ service & preventive maintenance plans
- Global service and distribution centers
- Repair and exchange programs

