

Application Brief

Traceability Labeling for Food Manufacturing



Industry

Food manufacturing

Products

Duratherm III Label
DuraTran II Label
DuraTran S Label
DuraTran Pro Label
INdelible Label
TMX1000, 2000, 3000 series ribbons
PM43, PX4/6i, PA30 printers

Region

North America

Typical Applications

Cereal manufacturing
Food processing
Frozen and general food manufacturing
Meat packing

Customer Benefits

- Assured compliance with government and industry standards
- Robust labels that function from ambient to freezer conditions
- Durable, high contrast print for consistent scanning performance
- Reduced total cost of ownership with free printhead replacement program when Intermec media and fixed printers are used together
- On-demand generation of high quality labels for item level traceability
- Labels in a wide range of colors and sizes
- Full range of media products to meet varied application requirements (basic, moderate, high durability)
- Stock media items available for quick shipment
- Optimized hardware performance with integrated Intermec solution (printer, media, data collection devices and easily upgraded to RFID)

Industry Need

When the Food Safety Modernization Act (FSMA) was signed into law on January 4, 2011, it signaled intent for the FDA to transition from contamination response to prevention. As the broad-reaching changes are fully implemented, they will include requirements for food facilities to proactively integrate plans for corrective action. An effective traceability system provides a foundational element for compliance with impending mandates. Additionally, without an effective traceability system, the negative impact of a potential recall is multiplied. Lacking precision product identification, large batches of unaffected products must be destroyed, multiplying lost profits without helping public safety. Extended time to execute and accurately track the root cause of contamination damages customer confidence long after the problem is corrected. Brand erosion due to high risk foods entering the supply chain can be avoided by careful selection of a supply chain solution.

A traceability system that includes bar code printers and media can offer benefits far beyond compliance and streamlined recalls. These systems support paperless initiatives, offer real-time visibility to inventory and production, and document chain of custody characteristics such as organic certification or fair trade pedigrees. The rich data generated can help identify efficiencies and highlight areas of low productivity as well as enhance customer service capabilities and responsiveness. Well implemented systems can even provide an important differentiator to help secure branded or private label business.

Food manufacturing environments often have unique requirements for traceability systems, making product selection challenging for packaging engineers. Depending on the food processing conditions, labels will encounter wet conditions during equipment wash downs that weaken paper labels. Cold environments render some label adhesives ineffective, creating a risk of unidentified containers. If label application is intended to create a permanent "license plate" for a tote, drum, or container, the label must be durable enough to survive repeated processing and cleaning steps. If the label contains lot-specific origin information, it must reliably remain in place (sometimes on textured, low-energy surfaces such as polyethylene drums), yet remove cleanly when the container is ready to be cleaned and reused. In many cases, the adhesive must be compliant with regulations for indirect food contact (21 CFR 175.105).

Reference Links

FDA information on FSMA

<http://www.fda.gov/Food/FoodSafety/FSMA/ucm247546.htm>

Media Solutions for Food Manufacturing Traceability					Leading Stock Label Configurations (Industrial Printers)	Leading Stock Ribbon Configurations (Industrial Printers)
Application	Material	Durability	Temp. Range	Adhesive compliant with 21CFR175.105		
Reusable drum/ tote tracking	Duratran S Label	Good label and print durability for wet processing environments	25F minimum application, -75 to 200F service	Yes	4x2" roll (E25742); 4x6" roll (E25743)	TMX1000 series: 4.17x18,000" (11034118, CSI) TMX2000 series: 4.09x18,024" (1234118, CSI)
	Duratran Pro Label, Duratran Pro Removable Label	Good label and print durability for wet processing environments; good facesheet stiffness for ease of application	45F minimum application, -65 to 200F service	Yes	3x1" roll (E02202); 3x5" roll (E02203); 3.25x2" roll (E02208); 4x2.5" roll (E02204); 4x6" roll (E03444); 4x6" removable roll (E09186)	TMX1000 series: 3.0x18,000" (11233018, CSI); 4.17x18,000" (11034118, CSI) TMX2000 series: 3.15x18,000" (12033318, CSI); 4.09x18,024" (1234118, CSI)
Permanent "License Plate" Tracking of Durable Containers	INdelible Label	Excellent; superior abrasion, moisture, and chemical resistance	50F minimum application, -40 to 302F service	Yes	3x1 roll (E23068); 3x2 roll (E23069); 4x1 roll (E25732); 4x2 roll (E23222); 4x6 roll (E25733)	TMX3000 series: 3.27x12000" (13033312, CSI); 4.1x18,000" (13634118, CSI)
General purpose labeling	Duratherm III Label	Good; moderate moisture and abrasion resistance	32F minimum application, -4 to 120F service	Yes	2x4" roll (E22749); 4x6" roll (E06144)	n/a - direct thermal
Cold temperature labeling	Duratherm III Cold Temp Label	Good. Topcoated sheet for moisture and smudge resistance.	-20F minimum application, -65 to 120F service	Yes	3.15x5" fanfold (E02485); 4x2.4" roll (E06143); 4x4" roll (SF17266-blank); 4x4" fanfold (E20073); 4x11.5 fanfold (E25588, integrated shipping label format)	n/a - direct thermal
	Duratran II Cold Temp Labels	Good; moderate moisture and abrasion resistance	-20F minimum application, -40 to 200F service	Yes	4x4" roll (E25738); 4x6" roll (E25739)	TMX1000 series: 4.17x18,000" (11034118, CSI) TMX2000 series: 4.09x18,024" (1234118, CSI)

Intermec Solution

With a wide range of container types, operating and storage conditions in food manufacturing facilities, it is important to select the right printer/media solution to ensure successful product tracking.

- For **reusable drums of dry food** ingredients or mixes, Duratran or Duratherm paper labels with removable adhesives stay reliably in place, yet remove cleanly when containers are reused.
- In **wet processing environments**, Duratran S and Duratran Pro labels remain intact and readable even when directly exposed to moisture, wet ingredient spills, and condensation.
- **Preprinted color coding** to enhance visibility of key fields (such as use-by dates, organic identification, etc.) can be added to labels while maintaining superb bar code scanning performance.
- **Piggyback or multi-part configurations** can be used to carry origin identification from a single item processed into multiple finished products.
- When a **permanent tracking label for durable containers** is required, INdelible labels can withstand the abuse of multiple wash cycles, freezing conditions to high temperatures of 300F, and direct abrasion.
- In the food manufacturing environment, **regulation-compliant components** are critically important to meet applicable regulations. Adhesives meeting FDA 21CFR175.105 requirements for indirect food contact are available on the range of Intermec label products.



Increase efficiencies and eliminate costly media waste with on-demand, in-field label printing. Intermec printers such as the PM43 for medium duty cycles, the PX4i for high duty cycles or the PA30 Print Engine for applicators, enable optimal farm to fork traceability. Count on Intermec to provide the ruggedness, high quality output and fast throughput needed for a worry-free traceability solution.

Printer Recommendations

PM43 Mid Range Printer [Profile](#)

PX4/6i High Performance Printers [Profile](#)

PA30 Specialty Printer [Profile](#)

- **Smart** – Powerful smart-printing capabilities enable error-proof labeling and can simplify processes; All-in-one printer language abilities for drop-in simplicity
- **Strong** – Superior throughput, designed to excel in demanding environments
- **Secure** – Industry leading, advanced and secure network connectivity options

The Intermec Advantage

When used in mission-critical food manufacturing traceability applications, it is essential that the printers and media function together flawlessly. Intermec printers and media are optimized to deliver superior performance when used together. Our rigorous testing and co-engineering ensures consistently high print quality, proven label and tag performance in demanding real-world environments, and maximum print head service life for reduced downtime.

Intermec printers and media are complemented by the industry's only complete line of integrated solutions and services, including rugged mobile computers, RFID systems, and advanced scanning technology. Intermec products and services are used by customers worldwide to improve the productivity, quality and responsiveness of their business operations.

Printhead Replacement Program

Intermec will provide no cost replacement printheads, as failures occur due to normal wear and tear, to those customers who use Intermec Media Products exclusively with their Intermec direct thermal and thermal transfer fixed printers. For full details, click [here](#).

For more information

Contact Intermec for more information regarding printers and media for traceability in food manufacturing environments.



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