

Application Brief

Cold Chain Food Labeling



Industry

Consumer Goods
Frozen Food
Manufacturing
Cold Storage
Refrigerated
Transportation
DSD

Products

- Duratherm III Cold Temp Label
- Duratran II Cold Temp Label
- Duratran S Cold Temp Label
- Duratherm S Cold Temp Label
- TMX1000, 2000 series ribbons
- PX4/6i
- PM43
- PB22/32/50

Region – North America

Typical Applications

- Food distribution and logistics
- Public refrigerated warehouses

Customer Benefits

- Assured compliance with government and industry standards
- Reduced total cost of ownership with free printhead replacement program when Intermec media and fixed printers are used together
- Improved item traceability
- Robust labels that function from ambient to freezer conditions
- Improved accuracy in shipping, receiving, inventory control
- 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, computer)

Intermec
by Honeywell

Industry Need

The cold chain industry faces a standard set of challenges to improve efficiencies, optimize inventory turns, and maintain profitability in a highly competitive environment. However, these are supplemented with increasingly stringent government regulations, the requirement to maintain a highly consistent controlled environment across all four seasons, and the need to document flawless performance when managing sensitive perishable food products such as seafood, meat, dairy, and produce.

Product traceability lays a foundation for effective cold chain logistics; accurate knowledge of product location (whether in transit or in a warehouse rack) drives customer satisfaction and key internal measurements such as inventory turns. Positive chain-of-custody documentation is non-optional and can be periodically put to the test with recalls. In the incidence of temperature excursions, determining affected products is only possible with accurate location information. With some products such as fresh produce requiring additional control of variables such as humidity and carbon dioxide, accurate documentation is essential. Validation for HACCP (food industry Hazard Analysis and Critical Control Point) or ISO 22000 systems can be difficult or impossible without accurate traceability.

Bar code labels provide the essential link between physical products and the computer systems that drive receiving, storage, retrieval, and shipment activities. However, in the cold chain environment, standard labels may not perform reliably. Conventional adhesives harden in the frigid environment, rendering the labels non-tacky; if this problem is not quickly detected, the operator runs the risk of widespread label failure after products have been placed in the racks, leading to effectively unidentified products. Similarly, if appropriate rack labeling material is not selected, the warehouse locations themselves can be misidentified. Effective label products serve as a critical element of the entire traceability system.

Intermec Solution

Cold chain operations, depending on the product class, commonly operate in ranges from -3 to 46F. However, products subjected to blast freezing often encounter lower temperatures (as low as -40F) soon after label application. Intermec Duratran and Duratherm labels with specially formulated freezer grade adhesives bond strongly to common substrates such as corrugated boxes, waxed corrugated or returnable plastic containers to survive these harsh conditions.

Barcode quality is important in the frozen logistics environment; with workers commonly wearing bulky gloves that make manual data entry difficult, failed scans are more than a minor inconvenience. Co-engineered Intermec printers along with Duratran and Duratherm label media consistently deliver crisp, clear barcodes essential to smooth operation and chain-of-custody documentation.

Duratran S freezer grade rack labels develop a strong permanent bond on common rack surfaces and can be applied in environments as low as -20F. With excellent print quality and a bright white facesheet, snappy scanning performance is no problem. When direct thermal printing is preferred (for instance, when labeling from a rugged mobile printer like the PB50), Duratherm S labels with cold temperature adhesive provide an excellent alternative for this challenging environment.

Media Solutions for Cold Chain Labeling					Leading Stock Label Configurations		Leading Stock Ribbons	
Material	Durability	Temp. Range	Carton labeling	Rack labeling	Industrial Printers	Desktop Printers	Industrial Printers	Desktop Printers
Duratherm III cold temperature labels	Good. Topcoated sheet for moisture and smudge resistance.	-20F minimum application, -40 to 120F service	■		3.15x5" fanfold (E02485); 4x4" fanfold (E20073); 4x11.5 fanfold (E25588, integrated shipping label format); 4x2.4 roll (E06143) 4x4 roll (SF17266)	3.15x5" fanfold (E02485); 4x4" fanfold (E20073); 4x11.5 fanfold (E25588, integrated shipping label)	N/A (direct thermal)	N/A (direct thermal)
Duratrán II cold temperature labels	Better. Fade-proof print for long term or high light conditions. Print durability tailored for cost or performance with ribbon choice.	-20F minimum application, -40 to 120F service	■	■	4x4" roll (E25738); 4x6" roll (E25739)	Custom	TMX1000 series: 4.17x18,000" (11034118, CSI) TMX2000 series: 4.09x18,024" (12234118, CSI)	TMX1000 series: 4.1x10,800" (11234012, 1" core) 4.33x3,588" (11044304, 1/2" core) TMX2000 series: 4.1x10,800" (12234012, 1" core) 4.33x3,588" (12044304, 1/2" core)
Duratherm S cold temperature labels	Better. Scratch and tear resistant film label.	-20F minimum application, -40 to 120F service		■	Custom		N/A (direct thermal)	N/A (direct thermal)
Duratrán S cold temperature labels	Best. Fade-proof print for long term or high light conditions. Scratch and tear resistant film label.	-20F minimum application, -40 to 200F service		■	Custom		TMX1000 series: 2.05x18,024" (11232018, CSI) 3.00x18,024" (11233018, CSI) 4.09x18,024" (11234118, CSI)	TMX1000 series: 2.35x10,800" (11232211, 1" core) 3.1x10,800" (11233011, 1" core) 3.27x3,588" (11043304, 1/2" core) 4.1x10,800" (11234012, 1" core) 4.33x3,588" (11044304, 1/2" core)

Ribbon Recommendation

TMX1000 series wax
TMX2000 series mid-range

Printer Recommendation

PM43 Mid Range Printer [Profile](#)

Ready – Fastest to deploy. Seamlessly fits any environment.

- Large color multi-lingual tamper proof touch-screen or icon user interface
- No touch configuration capabilities
- Only CCX & WiFi certified fixed printers with standard IPv6 implementation

Reliable – Maximize uptime. Built from 40 years of printing innovations. 3rd generation platform.

- Precision Print for consistent bar code printing with pin point accuracy
- Multilingual Web page loaded on every printer ensure easy device monitoring
- Strong metal structure with metal door that can be locked for media protection

Perform – Increase productivity and process efficiencies.

- Fastest throughput in its class
- Powerful programmable capability with ability to directly connect peripherals
- Most connectivity options in the market

PX4i High Performance 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

PB22/32/50 Rugged Mobile Label Printers [PB22 Profile](#), [PB32 Profile](#), [PB50 Profile](#)

- Industry's fastest label throughput
- Rugged design for the harshest mobile environments
- Easy to use and support
- Powerful smart-printing capabilities eliminate the PC – the industry's only "smart" mobile printers



The Intermec Advantage

When working in the harsh conditions encountered in the cold chain, it is critical that all elements of the printing system work 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.

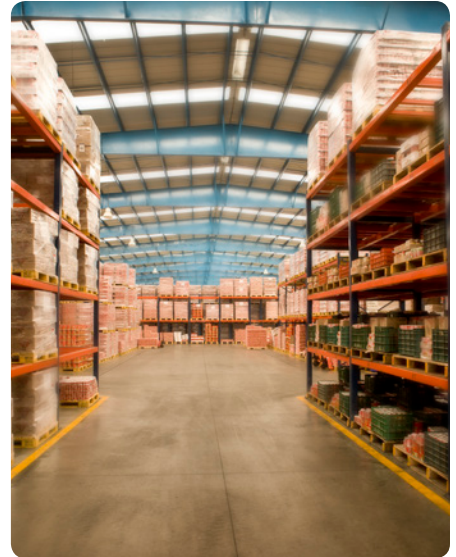


Printhead Replacement Program

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 on improved bar code traceability in your cold chain enterprise.



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