RFID Time/Temperature in Cold Chain Management

by

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The mission of the Center is to provide the food industry a unique environment for developing knowledge that will assure food quality and safety throughout the whole distribution chain.
CFDR

External Advisory Board
Ten top international decision makers in the retail food industry
Retailers, Food Service Companies, Restaurant Chains and End-users
(President or V-President)
CFDR

Why is Time/Temperature tracking so important?

Food Industry

and

Pharmaceutical Industry
Food Industry

Most perishable products are highly affected by temperature (quality and safety)
Food Industry

Each year a retail store can lose $400,000 due to bad temperature management.
Food Industry

Where temperature may be a problem?

Field, cooling, warehouse, transit, distribution and the store
Food Industry

Knowing real-time temperature can allow to predict “residual shelf life” and make decision based on this knowledge
Food Industry

Models predicting quality
Food Industry

Models predicting quality can be done at:

Pallet level
Case level
Item level
Food Industry

Due to high water content, RFID temp tags must be placed on the outside.
Food Industry

Pallet level

RFID Temp Tag
Food Industry

Case level

RFID Temp Tag
Food Industry

Item level
(punctual temperature)
Dynamic Shelf life
(cold chain)

**UNBROKEN**

**BROKEN FOR 9 HRS**
Food Industry
Item level
(punctual temperature)

Prevent misplacement of Products
Smart display
Dynamic “best before date”
Home applications
Food Industry
More applications

Prevent misplacement of products at DC
Smart transportation
Cooling optimization
Prevent “non-safe food” to enter in the
distribution chain
Cold Chain Diagnostic
Pharmaceutical Industry

Strict regulations about temperature range

Need very good accuracy

Able to read before opening the container
Pharmaceutical Industry

Many components of a shipping container are “unfriendly” to typical RFID Temperature Tags
Pharmaceutical Industry
Pharmaceutical Industry
Pharmaceutical Industry

Vacuum panels
RFID Temp Tags open a new era in Cold Chain Management

Food Industry will benefit from new “smart technologies” using RFID

Pharmaceutical Industry can have a “real time” visibility of the cold chain