



A Smart Choice for the Cold Chain

Why the combination of Passive Packaging Technology, Wireless Asset Tracking, and 3,300 Daily Nonstop Flights Offers an Efficient and Affordable Cold Chain Solution

Today, the demand for transporting medical and pharmaceutical products is exploding. So too are the challenges associated with moving time and temperature-sensitive cargo in a manner that keeps the cold chain intact, and ensures documented quality of delivery.

Active air transport containers, with compressors and active monitoring devices, are not only expensive, but their size limits their application to wide-body aircraft, which are primarily used for international routes.

So what's the best way for a pharmaceutical company or a Shipper of Perishable Commodities to move their temperature-sensitive cargo across the country in an affordable manner? Southwest Airlines Cargo and Cold Chain Technologies have the answer:

- **Cold Chain Technologies'** KoolTemp® HP-76-RFG High Performance parcel shipper is a reusable/returnable packaging system that combines Vacuum Insulated Panels and an innovative Refrigerant Phase Change Material to deliver 2°C to 8°C temperature protection for up to 120 hours. The HP-76-RFG also includes an embedded RFID temperature tag (from Intellex Corporation) that enables Shippers to monitor temperature data without opening the box.
- **Southwest Airlines Cargo** provides 3,300 daily nonstop flights throughout the Southwest network to over 90 destinations (including Interline and Road Feeder Service). Southwest's fleet of 550 aircraft provides Shippers with the widest range of "next-flight-out" options for delivering time-sensitive cargo.
- And Southwest's **Cargo Companion**SM asset tracking solution monitors the location, temperature, pressure, humidity, light, and shock of cargo from the moment it leaves the Shipper until it is received by the Consignee. Tracking by air waybill capabilities enable Customers to track shipments on **swacargo.com**, and proactive e-mail alerts also notify Shippers when their shipment has arrived.



By utilizing the latest advancements in passive packaging technology, Southwest Airlines Cargo is providing Customers with a cost effective and reliable Cold Chain solution that can reach any destination in the United States in a matter of hours.



Measuring 5 in x 3.8 in x 1 in, 120Z Cargo Companion travels with your cargo



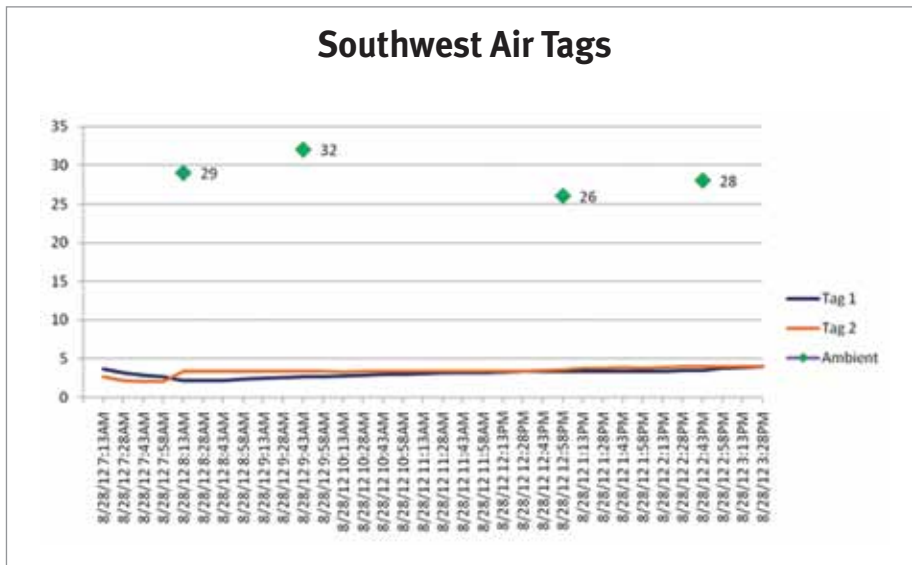


Validating the Solution:

On a hot summer day in August 2012, Southwest, Cold Chain Technologies, and Intellex tested the solution with products shipped from Dallas, TX (DAL) to San Jose, CA (SJC).

- The package left DAL at 10:20 am central time. The temperature in DAL at that time was about 84° F.
- The package arrived in Austin, TX (AUS) at 11:10 am central time, where the temperature was 89° F. It was then loaded onto an 11:40 am central time flight to Los Angeles, CA (LAX).
- The package arrived at LAX at 12:50 pm pacific time and was transferred to a 1:40 pm flight to SJC. The temperature at LAX was 78° F.
- The package then arrived at SJC at 2:40 pm pacific time where it was 83° F. The elapsed time for the trip was 6 hours, 20 minutes.

Upon arrival in SJC, the temperature data inside the Cold Chain passive packaging can be seen on the graph below.



The products shipped were intended to be maintained between 2°-8°C. As can be seen in the chart, the internal temperature was just under 24°C (75°F) when placed into the containers and rapidly adjusted to the container temperature, which was held between 2° and 4° C throughout the entire journey. This includes time spent in the cargo holds and on the tarmac moving from plane to plane.

The test demonstrates that temperature-sensitive products can be easily shipped with proper temperature management via Southwest Airlines. Through advancements in passive packing technology, Southwest and

companies like Cold Chain Technologies and Intellex are providing manufacturers and 3PLs with a cost-effective and reliable Cold Chain solution that can reach any destination in the United States in a matter of hours.

For further details, please contact your local Cargo Area Sales Manager today.

Additional information is also available at:



www.intellex.com



www.coldchaintech.com



www.swacargo.com