

## Case Study

# Eliminating Temperature Excursions on the Tarmac



## Challenge

With international attention given to increasing regulations on pharmaceutical quality assurance, and potential breaches costing millions of dollars, a major Pharmaceutical Company sought to further product temperature integrity in airfreight. Excursions often occurred when product was brought out of the cold room and sat on the tarmac for 2-3 hours before being loaded on the aircraft. With pressure to keep costs low and margins high, active containers were out of the question. However, thermal quilts seemed difficult and slow for staff to apply. The Pharmaceutical Company also questioned the effectiveness of thermal temperature protection.

## Solution

A live shipment of pharmaceutical products protected by a PMC PalletQuilt® was tested for temperature compliance and ease-of-application. With 360-degree coverage, the material would be able to capture and maintain the product's temperature for up to 5 hours. Its reflective material reduced risk from UV damage and heat buildup. Application complexities were solved with a "cap and wrap" design: the PalletQuilt body is wrapped around the PMC and sealed with a "cap" using Velcro for easy application and removal. The velcro straps also allowed for adjustable length, width and height.



Velcro seals for  
(1) quick application  
and removal and  
(2) adjustable length,  
width and height

Reflective finish  
for UV protection

Snug, 6-sided, 360 fit



**Industry:**  
Pharmaceutical



**Application:**  
Air freight



**Route:**  
Southern USA to  
Western Europe



**Challenge:**  
Temperature  
excursions while  
on tarmac



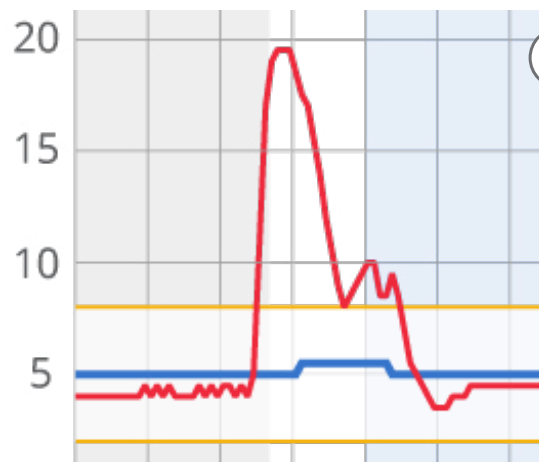
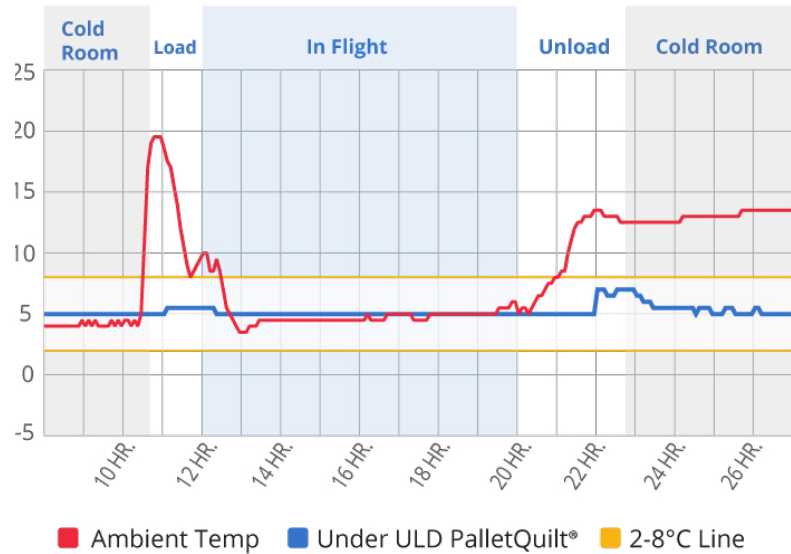
**Solution:**  
PMC PalletQuilt®  
with reflective  
finish and velcro  
seals for easy  
application

# Test Results

A shipment of pharmaceutical products was sent via airfreight from Southern USA to Western Europe. Temperature loggers were placed in under and outside the PMC PalletQuilt to record both product and ambient temperatures.

While on the tarmac ('load' and 'unload' periods), the PMC PalletQuilt kept the product between 2-8°C for 2+ hours, even when ambient conditions reached 20°C.

The pharmaceutical company reported ease of application and removal of the PalletQuilt, as well as ultimate satisfaction with design and performance qualifications.



Around hour eleven, the ambient temperature reached 18°C. Meanwhile, the product remained in the compliant temperature range at 5°C.

“ We have never had a temperature excursion with these covers as long as they are used correctly. They are very durable and are very easy to use. ”

—AF-3-Air Customer Service Exporter, Pharmaceutical Company