

Case Study

A major pharma manufacturer verified the value of QProducts' breathable PalletQuilt® covers as an integral part of making the switch from Air to Ocean thermal cover solution

Challenge

For years, the global biopharma industry has depended on air cargo to deliver finished products around the world, despite the fact that many of their raw materials and APIs were being delivered by ocean freight. The key differences have been: The high value of the temperature-sensitive, biologic finished products (with a single pallet potentially worth millions of dollars) and the predictability and short time frame of air delivery — hours or days, instead of weeks. But air cargo is arguably the single most expensive form of cargo transport, as much as four times what ocean logistics cost. In the early 2010s, one of the world's largest pharmaceutical manufacturers took on a project to evaluate the use of ocean-borne, refrigerated containers as an alternative to air cargo.

Solution

According to the quality manager in charge of the project "It was a hard sell" to get the company to consider the air-to-ocean switch. To address this, the quality team addressed all conceivable conditions of delivery: 0-100°F temperatures, low/high humidity, power outages in the reefer (which is typically run off diesel fuel with an electrical backup), shock and vibration, and were surprised to learn that ocean-borne freight suffers less vibration or shaking than air cargo does. Environmental testing was performed at a test chamber run by the University of Texas A&M, and a major refrigeration-equipment vendor. Testing included pre- and post-trial molecular analysis of the product for stability, potency, clarity and other factors. The program included testing a variety of blanket suppliers, with QProducts & Services' multilayer, breathable PalletQuilt winning out. A value add from QProducts included extensive reuse of the quilts, which are returned from a shipment, quality checked and refurbished as necessary. The quilts are redeployed up to fifteen times, providing further cost savings.



Industry:
Pharmaceuticals



Application:
Ocean Container



Route:
US West Coast to
Pakistan



Challenge:
Mitigate the impact
of temperature
spikes on temp
controlled ocean
freight



Solution:
PalletQuilt thermal
covers maintain
temps across
various products

Test Setup

The switch was made in 2015. Since then, it has been saving the manufacturer millions of dollars in shipping costs annually. There has not been one reject shipment according to the quality team, and in some ways, ocean freight can be a less severe form of delivery. Key to the undertaking is the use of reefer containers and QProducts' breathable PalletQuilts exclusively. No other insulation is necessary for the palletized shipments. The first ocean-borne shipment was from a US West Coast port to Pakistan. Since then, the program has been expanded to multiple East and West Coast ports, with destinations all over the world.



Reflective top cover provides high reflectivity against radiant heat

Breathable on 4 sides, mitigates temperature fluctuations during ocean transit



“ Our Air to Ocean program could not have been successful without the use of PalletQuilts. ”

— International Logistics Consultant, North American Pharmaceutical Company