

ECOFLEX RENEW: A PRECONDITIONED RETURN AND REUSE SHIPPING SYSTEM FOR GLOBAL DELIVERY OF TEMPERATURE-SENSITIVE PRODUCTS

CUSTOMER:

A leading contract development and manufacturing provider servicing the pharmaceutical and biotech sector.

SOLUTION OVERVIEW:

A major clinical supply chain solutions Provider has been experiencing rapid growth. In order to manage the logistical and cost increases associated with both increased volume and global reach, they required a cost-effective reusable shipping solution suited for worldwide controlled-temperature distribution of temperature sensitive drugs. In under a year, Cold Chain Technologies (CCT) optimized and implemented a reusable VIP-PCM thermal packaging system to support these requirements. The result is a best-in-class global passive shipping system that matches the volume and payload capacities of industry standard single use parcel systems while offering the additional advantages of reduced cost, reduced waste and improved thermal performance, all in an environmentally friendly reusable platform. This is the EcoFlex Renew Program.

DEVELOPMENT, QUALIFICATION AND IMPLEMENTATION:

Based on the Provider's requirements and in collaboration with CCT's Thermal Engineering Team, we developed detailed system specifications as well as a practical Operational Qualification strategy tailored to meet the realities of global intermodal distribution. This includes scientifically defensible sampling, measurement and analysis of temperature performance against appropriately challenging temperature profiles. CCT's ISTA Certified Testing Laboratory and ISO 9001: 2015 Quality Management Systems allied to our development expertise produced a shipping system which doubles temperature protection duration from 48 to 96 hours – building confidence in the event of unexpected shipment delays, extending global distribution range, and creating the opportunity to employ alternative shipping routes in some cases.

RETURN, REFURBISH AND REUSE

EcoFlex Renew is a reusable shipping system which can support multiple distribution models as the Provider specifies and incorporates advanced engineering and design features which enhance operational simplicity. The Provider benefits from the operational flexibility afforded by the fact that a hibernation period (planned or unexpected) of up to five days does not impact the 96 hour duration of temperature protection; and the inclusion of in-system temperature indicators, observable at the time of product loading, adds assurance of appropriate payload area temperature during this critical phase of the process.



CCT is enabled to provide fully packed-out and temperature preconditioned shippers, ready for product loading and subsequent shipment to the end customer. After receipt and removal of the product load, the end customer returns the shipper to CCT for refurbishment and reshipment to the Provider to continue the cycle. The refurbishment process allows for time and cost-efficient refurbishment with seamless return supply to the Provider. The cost benefit of the reduction in new materials required for the refurbishment cycle translates to an ultimate program savings of 10 - 15% compared to a single use shipping solution, while simultaneously reducing the introduction of packaging materials into the waste stream by 89%.

Experience, Assurance and Results

As part of the refurbishment process, CCT performs 100% visual inspection on every part of the shipper. Our process demonstrates an outstandingly low (<2%) need for parts replacement, even after completion of 10 shipment/refurbishment cycles. Structural integrity testing and temperature maintenance data after 15 cycles indicates excellent long-term durability and ongoing temperature protection. We have made the tracking and return process straightforward to follow at every step of the way. Our observed return rate of over 97% is clear demonstration of this key point: adherence to the program is not a barrier and this allows the Provider to realize the inherent cost savings of the Return and Reuse model.

Conclusion and Benefits Realized

This program has gone from concept, through development and into full implementation in under one year. In this short period of time and with the experience of thousands of weekly shipments, the Provider is enjoying the benefits of:

- ▶ Reduced total program costs compared to a single use model
- ▶ Increased duration of temperature protection due to advanced design
- ▶ Reduced weight-related freight costs due to lighter reusable materials
- ▶ Reduced waste and waste stream management costs due to system reuse

The ultimate result for the Provider is a reduction in program costs of 10-15%. The EcoFlex Renew program has been a truly enabling technology for the Provider, providing materials, support and confidence as they continue their path of aggressive growth in global pharmaceutical logistics and their mission of helping patients worldwide.

PERFORMANCE

Enhanced temperature protection out to 96 hours

REUSABILITY

>97% return rate

ECONOMY

Reduction in program costs of 10-15%