



PROJECT PROFILE

SHOCK AND VIBRATION ASSISTANCE

CLIENT CHALLENGES

Our client develops analytical instrumentation and devices that are shipped around the world. To ensure the instrumentation functions properly when delivered to its final destination it must be shipped following the ISTA standards. However, when the instrument and the shipping container underwent shock and vibration testing it failed to meet this standard. Palladium was asked to review and assist the client as follows:

- Interpret the data and results of Shock and Vibration tests already performed.
- Conduct analysis to characterize the system
- Suggest solution(s) that would minimize cost and change to the existing shipping container.

SOLUTION

Palladium was retained for our expertise in the Shock and Vibration field. The following tasks were performed to successful project completion:

- Analysis and interpretation of pre-existing client Shock and Vibration tests.
- Dynamic simulation modelling and calculations to characterize the shipping container.
- Selection of a proposed design solution and prediction of expected response characteristics.
- Physical testing of 'Dynamic Stiffness' material characteristics for the proposed shock isolator design.
- Formal report to the client presenting the results of testing and analysis.
- Assistance in testing and analysis of data for the new proposed shipping container design to confirm results.



PROJECT HIGHLIGHTS

Palladium delivered the project within time and budget due to:

- Previous Shock and Vibration design and test data analysis experience.
- Previous experience using dynamic simulation models to characterize drop tests and vibration in real world systems.
- Collaborative work with shock isolator suppliers.

Minimal change to the existing container design enabled the client to:

- Ensure a safely transported product.
- Minimize costs.
- Retain existing shock isolator supplier.
- Minimize impact to product shipping schedule.

