PROJECT PROFILE

SHOCK AND VIBRATION ASSISTANCE

CLIENT CHALLENGES

Our client develops analytical instrumentation and devices that are shipped around the world typically by transport on a specially designed shipping pallet. The shipping pallets and contents must withstand handling by forklift. The instruments are often in the hundreds of pounds yet they are sensitive to shock and vibration. To ensure the instrumentation functions properly when delivered to its final destination it must be shipped following the ISTA standards. Palladium was asked to review and assist the client as follows:

- Conduct analysis to characterize the current system and shock mounts.
- Suggest alternate shock mounts that would minimize acceleration to the unit while in its shipping case.

SOLUTION

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

- Dynamic simulation modelling and calculations to characterize the current system and shock mounts.
- Selection of a proposed design solution and prediction of expected response characteristics.
- Formal report to the client presenting the results of testing and analysis.

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 the existing shock isolator supplier.
- Minimize impact to product shipping schedule.