



System: CHHB

Kinetics Noise Control Solutions

NOISEBLOCK™ Dynamometer Test Cells

Client

Dynamometer systems packager requiring a series of dynamometer cells for testing of diesel engines.

Issues

- Typically, the packager would manufacture its own factory-assembled cells and systems and drop ship the complete package to the end user. This project required test cells that were much larger than normal and the option of standard factory assembly was not feasible.

Solutions

- Because of this and the need for stringent sound control, the client came to Kinetics Noise Control, Inc. (KNC) for specialized products and services.

- The KNC representative and in-house engineering team worked closely with the packager, project architect, mechanical and electrical engineering firms, dynamometer testing equipment manufacturer, general contractor and end user to develop the most cost effective and easy to install, specification-meeting solution.
- KNC supplied and shipped the entire system as “knock-down” (dis-assembled) components which were field installed into a final integrated system.
- KNC supplied the cells’ structural steel frame system, walls roof and floor, high STC (sound transmission class) double and single doors as well as high STC and high impact resistant windows and special interior sound absorption wall and ceiling panels.



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Advantages of Proposed Solution

- Kinetics Noise Control, Inc. (KNC) specializes in the manufacture of **NOISEBLOCK™**, custom engineered high transmission loss enclosure systems. This ensures that noise reductions levels are achieved resulting in noise ordinances met.
- The freight savings were significant compared to shipping a factory assembled enclosure and did not require oversized, shipment permits or escorts.
- The structural component design was incorporated per the local building code requirements and designed to meet loads imposed by independently (others) supplied equipment.

Considerations

- Environmental noise issue
- Multiple dynamometer cells in series
- Stringent and very demanding specifications

Project Goals

- Need to work with many trades to coordinate a system that would meet stringent specifications
- Make sure the enclosure system was designed to accept the loads imposed by third party supplied mechanical equipment
- Quiet the noise levels of multiple engines operating simultaneously to the specified sound level
- Design a system which stayed within client's budget

NOISEBLOCK™ Applied Products

The walls and roof system was constructed of KNC custom engineered, high transmission loss, double-wall **NOISEBLOCK™** panels and model STL-K absorptive wall and ceiling panels, all constructed of aluminum, stainless and galvanized heavy gage sheet metal. Included were high STC single and double doors for equipment and personnel access. Also included were high STC and impact resistance windows. The structural steel framing component assemblies were designed as field bolt together construction. This was because all enclosure components had to be factory painted with a special oil and fuel resistant paint. The multiple test cell system was 150'-0" L x 47'-0" W x 15'-10" H.

Resolution

The entire project stretched over a period of two years. The ability to work with many trades, select from a diverse selection of KNC manufactured products and tap into years of acoustical and engineering talent lead to a successful, cost effective and durable project solution.