



System: CEKN

KINETICS® Solutions

Sound Curtain Machine Enclosure

Client

A manufacturer of residential and commercial wood products and materials.

Issue

A new industrial hygiene policy eliminated the use of earplugs requiring noise levels within the facility be reduced resulting in a noise abatement initiative.

Solution

Kinetics local representative, Kinetics engineering team, and the client's safety engineering group developed an action plan.

1. The client supplied the Kinetics representative with the independent sound study report prepared by a local acoustical consulting firm.
2. Kinetics representative and engineering team visited the client's facility to review the loudest noise sources and determine the most economical and effective solution.
3. The analysis determined that the primary noise sources occurred in the sanding machine and the tongue and groove machine process areas.
4. The key areas of concern were not at the machines themselves but at the marked personnel walkways and forklift pathways.
5. The solution would require noise reduction of the existing 105 dBA to 85 dBA at 19'-0" for the tongue and groove machine area, and from 101 dBA to 85 dBA at 5'-0" the sander machine area.
6. Kinetics proposed an enclosure system consisting of **NOISEBLOCK™** STL-2 panel roof and KNC-200BQQ sound curtain wall panels.
7. Kinetics supplied the product solutions while Kinetics' local representative supplied installation and post installation sound readings and report.



Considerations

- “In-plant” noise initiative
- Customer requested the Kinetics representative provide product and installation
- Budget
- Time Constraints

Advantages of Kinetics Solution

1. Kinetics KNC-200BQQ sound curtain panels and **NOISEBLOCK™** STL-2 rigid roof panels are all backed by independent sound tests per applicable ASTM standards.
2. A single manufacturer, engineering team, and representative for the entire sound enclosure package from discovery through installation, and post installation test reporting.

Project Goals

- Facility-wide target sound level of 85 dBA.
- Current noise level 105 dBA.
- The solution could not interfere with normal traffic flow of process and workers.

Applied Products

It was determined that complete curtain enclosures, four-sides and roof were needed to meet the target sound levels. This posed a few challenges. The sound curtain enclosures needed to be 16'-0" H with large roof spans and two long walls being able to slide out of the way on a moments notice for emergency service and routine maintenance. This required Kinetics' structural steel design expertise and product diversity.

In addition, the enclosures required lighting and ventilation for proper equipment operation and personnel safety. Due to the manufacturing diversity of Kinetics, the specified products were available to achieve the project requirements. Kinetics incorporated products from their two manufacturing facilities in the supply of one complete system.

To increase the stability of the enclosure Kinetics **NOISEBLOCK™** STL rigid panel roof was used. The STL panels were constructed 18 gage solid outer skins and 22 gage perforated inner skin, all material was galvanized steel, Type G90. These panels yielded a solid support for lighting and ventilation equipment as well as block and absorbed noise. A structural steel support system was used in conjunction with a double-track curtain suspension system allowing for complete opening of the large 16'-0" H x 18'-5" L bi-parting walls required by the tongue and groove process. The wall panels were manufactured of KNC-200BQQ, sound curtain panels. The curtain panels are constructed of a layer of 2.0 psf, mass-loaded vinyl sandwiched between two layers of 1-inch thick fiberglass quilt faced with aluminized vinyl cloth. The sander process required a window located on the roof for viewing of the sanding process by personnel during operation.

Resolution

The noise levels were reduced. The client continues to contact the local Kinetics representative when they encounter a noise control need within any of their nationally located facilities. Kinetics **NOISEBLOCK™** system is standard within their organization.



kineticsnoise.com
sales@kineticsnoise.com
1-800-959-1229