



System: CKDB

# Kinetics Noise Control Solutions

## NOISEBLOCK™ Sound Curtain Process Enclosure

### Client

A manufacturer of windows and doors for residential, commercial and industrial building systems

### Issues

- OSHA, Occupational Safety and Health Association, issued the manufacturer a citation regarding extreme noise levels in a key area of their manufacturing facility – aluminum debridging process.

### Solutions

- The client contacted a local acoustical consultant who in turn contacted the local Kinetics Noise Control, Inc. (KNC) representative. The two groups met with the client and determined a plan of action which included: Identifying the primary and secondary noise sources; determining the design goal dictated by the OSHA noise regulation; reviewing the process flow with respect to materials and personnel; developing conceptual design options to present to the client.

- Conceptual designs consisted of: perimeter treatment consisting of **NOISEBLOCK™** rigid, model STL-4, steel, double-wall, barrier walls; source treatment consisting of model STL-4, steel, double-wall, enclosures; and sound curtain perimeter barrier wall and source enclosure options.
- During the investigation it was determined that the predominant noise occurred in the 2000 Hz to 4000 Hz frequency range. This range is considered the mid to high frequency range. It was determined a KNC model KNC-100BQQ sound curtain system could solve the noise issue. This product is well suited for custom cutting and close fitting to the existing process as well as frequent and easy personnel access.



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### Advantages of Proposed Solution:

- The **NOISEBLOCK™** sound curtain panels introduced the needed attenuation, were cost effective with performance backed by independent sound tests per applicable ASTM standards.
- Kinetics Noise Control, Inc. (KNC) a recognized manufacture of noise control products and services supplied all necessary products.

### Considerations:

- “In-plant” noise initiative
- Customer requested the KNC representative to provide product and installation
- There was a set budget
- Time Constraints governed by OSHA citation

### Project Goals:

- The target sound level of 85 dBA
- Current noise levels 110-117 dBA
- Any solution must take into account the normal traffic of process and workers and not interfere

### NOISEBLOCK™ Applied Products:

It was determined that custom curtain conveyor enclosures consisting of close fitting conveyor covers around a main intake and discharge conveyor path and multiple intake and discharge conveyor paths plus one large enclosure around the main machining equipment

was the best solution. This project required KNC's structural steel design expertise and product diversity in order to fit and attach the proposed enclosures to the existing conveyors and machinery. Due to the manufacturing diversity of KNC, the right products were available to achieve the project requirements.

The conveyor covers and machine enclosure were manufactured of model KNC-100BQQ, sound curtains. The curtain panels are constructed of a layer of 1.0 psf, mass-loaded vinyl sandwiched between two layers of 1-inch thick fiberglass quilt faced with aluminized vinyl cloth. The system included, clear view, 1.0 psf, mass-loaded, vinyl strip curtains for raw product entry and finished product exit as well as personnel access.

The local KNC representative and in-house engineering team worked with the installing mechanical contractor during the design and submittal phase to make sure everything would fit to the existing process and not interfere.

### Resolution:

The required noise reduction was achieved and the manufacturer continues to operate with noise levels equal or less than the OSHA regulation. Due to the success of this project the manufacturer ordered four more systems, one for each of their manufacturing facilities throughout North America.