

# noiseletter

Published by Kinetics Noise Control, Inc.  
Problem-solvers in vibration isolation,  
noise and shock control.

## Pile Driver Noise Control

Cayuga-Crimmins Contractors began installing heavy steel pilings at Bowling Green Subway Station in New York City, using a Vulcan model 08 pneumatic pile driver.

Radiated noise varied between 102 and 106 dBA as the pile driver delivered 26,000 ft.-lb. of energy to the top of each pile at a rate of 50 blows per minute.

Noise levels measured 50 feet away from the source may not exceed 85 dBA, according to the New York City Noise Code.

Kinetics Noise Control was called in, and approached the problem of reducing radiated noise by 21 dBA in (3) ways:

Reduce the impact sound of the ram hitting the pile cap by placing Kinetics Flexoply in the anvil chamber. Flexoply is a resilient, yet very stiff, shock-absorbing pad.

Reduce the discharge sound of the hammer's air exhaust by installing a rectangular 12' (3.7 mm) high, 1/4" (6 mm) thick steel enclosure lined with Kinetics Composite Material that provides both sound absorption and a limp mass noise barrier.

Reduce the "ringing" sound of the steel piles by painting Type KDC-E-162 Damping Compound across the web of each pile at 5' (1.5 mm) intervals.

The results were unbelievable! The pile-driver noise was reduced to very acceptable level of 77-85 dBA, measured only 25' (7.6 mm) from the driver, thus preventing a city-ordered shutdown that would have caused lost production time on the job.



1. Colorfully decorated steel enclosure, with an "E" for Ecology on the outside and Kinetics composite noise absorption material bonded to the inside, surrounds pile driver and shock-treated pile cap. Web and flanges of pile have bands of Kinetics type KDC-E-162 viscoelastic damping compound applied to them.



2. Pile cap nears ground level, where driving is more difficult and impact noise is closer to people in the immediate area. Bottom "skirt" is a flexible Kinetics type KNC Noise Control Curtain barrier that reduces noise by shielding the point of impact.