



Acoustics, Noise & Vibration Control

**Thornton Tomasetti**

## **ANVC-05: Acoustic Disasters! Common Construction Mishaps in Acoustics, Noise & Vibration Control**

### **Summary**

Acoustic considerations have a significant impact on the design of a building. From concert halls to private residences, it is desirable to create spaces that are pleasing to the ear without compromising the architectural vision of the building. Learning the behavior of sounds, both exterior sounds that enter a building and those generated internally, is paramount in creating an atmosphere that meets the needs of occupants.

The first half of the course includes an overview of the basics of sound, and how it interacts with a building. Sound-isolation techniques to block the transmission of unwanted noise are presented. Controlling the transmission of building-service equipment noise is discussed, covering mechanical, electrical and plumbing systems.

The second half of the course provides examples of common construction mistakes that are typically and repeatedly found on site, either during construction or forensically after complaints have been made by building occupants. Tips for recognizing and preventing these mistakes are presented, which can be used to avoid costly retrofits that would be necessary to mitigate these issues.

### **Learning Objectives**

1. Develop an understanding of how sound moves throughout a building.
2. Understand how to block the transmission of unwanted and harmful noise between spaces in a building.
3. Learn how to control mechanical, electrical and plumbing services-generated noise.
4. Understand, recognize and prevent common contractor mistakes during construction that can lead to disturbing and unwanted noise and vibration in a building.

Presentation length: 60 minutes.

To schedule a presentation for your firm, email [AcousticEd@ThorntonTomasetti.com](mailto:AcousticEd@ThorntonTomasetti.com).