

**ACOUSTICS2008/1685**  
**Uncertainty of Receiving Space Volume in Field Measurements of**  
**Transmission Loss Under ASTM E336-05**

Jonah Sacks  
Acentech, 33 Moulton Street, Cambridge, MA 02138, USA

As acoustical consultants, we are frequently asked by our clients to measure the sound isolating performance of constructions in the field. While it is often preferable to report "system-level" performance ratings such as Noise Isolation Class, there are compelling benefits both to us and to our clients to measuring and reporting "specimen-level" performance ratings such as Apparent Sound Transmission Class, defined by ASTM E336-05 (and E413-04). The accuracy of such ratings depends on accurate assessment of the amount of acoustical absorption present in receiving spaces at the time of testing, arrived at by means of reverberation time measurements and physical measurement of receiving spaces. When a receiving space is irregular in shape, one may feel pressed to use creative judgment to estimate its effective volume, and such judgments can have large impacts on the reported results. We will discuss the challenges of measuring apparent transmission loss in the field, and the compelling reasons to conduct these measurements despite the challenges.