

**TRANSMISSION LOSS MEASUREMENT
A SCALE MODEL APPROACH**

By

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ABSTRACT

Transmission Loss modeling and measurement are critical for noise control, allowing precise determination of the noise control potential of a given partition either prior to, or following, construction. While current methods of Transmission Loss measurement are relatively effective at high frequencies, the test equipment is expensive and impractical due to the large room volume required to meet diffuse field requirements. In addition, low frequency data is often still lacking. The following thesis studies the feasibility of using scale models to measure transmission loss, allowing measurements to be taken in a more economically reasonable manner. The apparatus studied is of the dual reverberation chamber variety built to a 1/10 scale model. Data is obtained for materials that are well tested and the results are compared with known data along with Davy's Cremer model estimation. These results also provide a more practical method to test other transmission loss measurement setups.