



Standard Practices for Mounting Test Specimens During Sound Absorption Tests¹

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1. Scope

1.1 These practices cover test specimen mountings to be used during sound absorption tests performed in accordance with Test Method C 423.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

C 423 Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method²

C 634 Terminology Relating to Environmental Acoustics²

2.2 ISO Standard:

ISO 354 Measurement of Sound Absorption in a Reverberation Room³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 Except as noted in 4.2, the terms used in these practices are defined in Terminology C 634.

3.2 The following terms have the meaning noted for these practices only:

3.2.1 *sound-absorbing units* — consists of test specimens that are in direct contact with or suspended from ceilings, walls, or other room surfaces. Sound-absorbing units include, but are not limited to, baffles, draperies, space absorbers, volume absorbers (bass traps), and other three-dimensional objects.

3.2.2 *test surface*—any hard surface over which the test specimen or test specimen mounting is placed for testing in accordance with Test Method C 423. The surface shall satisfy

the room construction requirements of Test Method C 423. In most cases, the surface will be the floor of the reverberation room.

4. Significance and Use

4.1 The sound absorption of a material that covers a flat surface depends not only on the physical properties of the material but also on the way in which the material is mounted over the surface. The mountings specified in these practices are intended to simulate in the laboratory conditions that exist in normal use.

4.2 Some of the specified mountings require special fixtures or minor deviations from normal practice. These fixtures or deviations are to be used only during laboratory tests and should not be specified for practical installations. They are noted in the specifications for the mountings in question by the phrase “for laboratory testing only.”

4.3 Test reports may refer to these mountings by type designation instead of providing a detailed description of the mounting used.

5. Classification

5.1 The mountings are designated as follows:

5.1.1 *Type A Mounting*—Test specimen laid directly against the test surface (described in detail in Section 6).

5.1.2 *Type B Mounting*—Test specimen cemented to gypsum board and laid directly against the test surface (described in detail in Section 7).

5.1.3 *Type C Mounting*—Test specimen comprising sound-absorptive material behind a perforated, expanded, open facing or other porous material (described in detail in Section 8).

5.1.4 *Type D Mounting*—Test specimen mounted on wood furring strips (described in detail in Section 9).

5.1.5 *Type E Mounting*—Test specimen mounted with an air space behind it (described in detail in Section 10).

5.1.6 *Type G Mounting*—Test specimen is a drapery, window shade, or blind hung parallel to the test surface (described in detail in Section 11).

5.1.7 *Type H Mounting*—Test specimen is a drapery suspended away from any vertical surface (described in detail in Section 12).

¹ These practices are under the jurisdiction of ASTM Committee E-33 on Environmental Acoustics and are the direct responsibility of Subcommittee E33.01 on Sound Absorption.

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² *Annual Book of ASTM Standards*, Vol 04.06.

³ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.