



Standard Test Method for Measuring the Interzone Attenuation of Open Office Components¹

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INTRODUCTION

This test method describes the measurement and evaluation of acoustical performance of components affecting speech privacy in open-plan spaces. The maximum privacy theoretically available at normal working distances in open-plan spaces, with partial height space dividers (screens), is insufficient without the assistance of relatively elevated background masking sound levels. Thus, the provision of adequate speech privacy in open-plan offices and schools is one of the most difficult tasks in the architectural acoustics field. This test method provides a means of objectively measuring the relevant acoustical characteristics of three major components of open-plan spaces, the ceiling system, furniture panels used as acoustical barriers, and wall finishes which attenuate reflected sound. Furniture panels may be tested for their capacity as an acoustical barrier and/or the degree to which they may reduce reflected sound.

1. Scope

1.1 This test method covers the measurement of the interzone attenuation for three components of open-plan spaces:

1.1.1 Ceiling systems when used in conjunction with partial-height space dividers. This arrangement is commonly used in offices to achieve speech privacy between work zones in the absence of full-height partitions. This test method is applicable to any ceiling configuration, including, for example, a pattern of sound-reflective panels in an otherwise sound-absorptive ceiling. This test method generally requires use of a fixed space divider height of 1.50 m [5 ft]. In recognition of trends toward alternate divider heights in open office environments, measurements with an alternate divider height may be conducted in accordance with this standard.

1.1.2 Furniture panels used as acoustical barriers in open-plan spaces to provide speech privacy or sound isolation between working positions.

1.1.3 Vertical panels, including wall finishes such as sound-absorbent panels, and furniture panels or screens which may reflect sound. It may not be applicable to such items as window finishes or furniture other than panels if these differ significantly from flat wall panels.

1.1.4 The combination of results from the various components of an open-plan office is beyond the scope of this standard.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.3 Unless otherwise qualified, all dimensions specified in this test method shall be understood to have a tolerance of ± 6 mm ($\pm 1/4$ in.) The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[E423 Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method](#)

¹ This test method is under the jurisdiction of ASTM Committee E33 on Building and Environmental Acoustics and is the direct responsibility of Subcommittee E33.02 on Speech Privacy.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.