



Standard Test Method for Objective Measurement of Speech Privacy in Open Plan Spaces Using Articulation Index¹

This standard is issued under the fixed designation E1130; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

This is one of a series of test methods for assessing speech privacy in buildings. This specific standard is designed to assess the speech privacy between locations in open plan spaces, where occupants are separated only by partial-height partitions and furnishings. Another test method deals with assessing speech privacy for closed rooms. A related test method deals with the laboratory measurement of interzone attenuation for open plan components intended to provide speech privacy, such as partial height space dividers, ceiling systems and wall finishes.

1. Scope

1.1 This test method describes a means of objectively assessing speech privacy between locations in open plan spaces. This test method relies upon acoustical measurements, published information on speech levels, and standard methods for assessing speech communication. This test method does not measure the performance of individual open plan components which affect speech privacy; but rather, it assesses the privacy which results from a particular configuration of components (**1**, **2**).²

1.2 This test method is intended to be a field test for the assessment of speech privacy in actual open plan spaces. However, this test method could be used in mock-up spaces and in environments arranged to simulate an open plan space.

1.3 This test method is suitable for use in many open plan spaces including traditional open offices, focus areas, and collaboration spaces. In addition to office buildings, these types of spaces will also be found in healthcare buildings, institutional spaces, schools, etc. It is not directly applicable for measuring the speech privacy between open plan and enclosed spaces or between fully enclosed spaces.

1.4 This test method relies upon the Articulation Index, which objectively predicts the intelligibility of speech. While both the Articulation Index and this test method can be

expected to reliably predict speech privacy, neither predicts the specific effective speech privacy afforded to particular individual occupants.

1.5 The values stated in SI units are to be regarded as the standard. The inch-pound units in parentheses are for information only.

1.6 *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*:³

C634 Terminology Relating to Building and Environmental Acoustics

E1179 Specification for Sound Sources Used for Testing Open Office Components and Systems

2.2 *ANSI Standards*:⁴

ANSI/ASA S1.4-2014/PART 1/IEC 61672:1-2013 Specification for Sound Level Meters

ANSI/ASA S1.6-1984 (R2011) Preferred Frequencies, Frequency Levels, and Band Numbers for Acoustical Measurements

ANSI/ASA S1.11-2014/Part 1/IEC 61260:1-2014 Specification for Octave-Band, and Fractional-Octave-Band Analog and Digital Filters

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.

Current edition approved Nov. 15, 2016. Published December 2016. Originally approved in 1986. Last previous edition approved in 2008 as E1130 – 08. DOI: 10.1520/E1130-16.

² The boldface numbers in parentheses refer to the list of references at the end of this test method.

³ 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.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.