

# ISO 10534-2:1998, Acoustics - Determination of sound absorption coefficient and impedance in impedance tubes - Part 2: Transfer-function method



This test method covers the use of an impedance tube, two microphone locations and a digital frequency analysis system for the determination of the sound absorption coefficient of sound absorbers for normal sound incidence. It can also be applied for the determination of the acoustical surface impedance or surface admittance of sound absorbing materials. Since the impedance ratios of a sound absorptive material are related to its physical properties, such as airflow resistance, porosity, elasticity and density, measurements described in this test method are useful in basic research and product development. The test method is similar to the test method specified in ISO 10534-1 in that it uses an impedance tube with a sound source connected to one end and the test sample mounted in the tube at the other end. However, the measurement technique is different. In this test method, plane waves are generated in a tube by a noise source, and the decomposition of the interference field is achieved by the measurement of acoustic pressures at two fixed locations using wall-mounted microphones or an in-tube traversing microphone, and subsequent calculation of the complex acoustic transfer function, the normal incidence absorption and the impedance ratios of the acoustic material. The test method is intended to provide an alternative, and generally much faster, measurement technique than that of ISO 10534-1. Compared with the measurement of the sound absorption in a reverberation room according to the method specified in ISO 354, there are some characteristic differences. The reverberation room method will (under ideal conditions) determine the sound absorption coefficient for diffuse sound incidence, and the method can be used for testing of materials with pronounced structures in the lateral and normal directions. However, the reverberation room method requires test specimens which are rather large, so it is

not convenient for research and development work, where only small samples of the absorber are available. The impedance tube method is limited to parametric studies at normal incidence but requires samples of the test object which are of the same size as the cross-section of the impedance tube. For materials that are locally reacting, diffuse incidence sound absorption coefficients can be estimated from measurement results obtained by the impedance tube method. For transformation of the test results from the impedance tube method (normal incidence) to diffuse sound incidence, see annex F.

Measurement of Sound Absorption and Impedance - University of Engineering Noise Control: Theory and Practice, Fourth Edition - Google Books Result ISO 10534-2:1998(E) ISO. 10534-2. First edition. 1998-11-15. Acoustics Determination of sound in impedance tubes . Part 2: Transfer-function method. Acoustique . Determination of diffuse sound absorption coefficient ast of locally Textile Advances in the Automotive Industry - Google Books Result ISO 10534-2:1998, Acoustics Determination of sound absorption coefficient and impedance in impedance tubes. Part 2: Transfer-function method. ISO 10534-2:1998 - Acoustics -- Determination of sound absorption Acoustics Measurement of sound absorption properties of road surfaces in situ Part This part of ISO 13472 specifies a test method for measuring in situ the sound ISO 10534-2:1998, Acoustics Determination of sound absorption coefficient and impedance in impedance tubes Part 2: Transfer-function method Determination of sound absorption coefficient and impedance in impedance tubes: ? Part 1: Method using standing wave ratio ? Part 2: Transfer-function method. BS EN ISO 10534-2:1998 Acoustics - Determination Of SAI Global for my questions about acoustic theory, measurement methods and feedback of this thesis. iii 2. Impedance tube theory - Transfer function method using two microphones. 3. 3. . coefficient, since a part of the energy in the incident sound will be absorbed and dis- For this reason, the standard ISO 10534-2:1998 [2]. ISO 10534-2 Determination of sound absorption coefficient and impedance in impedance tubes: Part 1: Method using standing wave ratio. Part 2: Transfer-function ISO 10534-2 de impedancia. Parte 2: Metodo de la funcion de transferencia. (ISO 10534-2:1998). Titulo ingles, Acoustics - Determination of sound absorption coefficient and impedance in impedances tubes - Part 2: Transfer-function method. (ISO Preview - NEN Acoustics Determination of sound absorption coefficient and impedance in impedance tubes Part 2: Transfer-function method. Acoustique Determination ISO 10534-2:1998(en), Acoustics Determination of sound Acoustics Determination of sound absorption coefficient and impedance in impedance tubes Part 1: Method using International Standard ISO 10534-1 was prepared by Technical Committee ISO/TC 43, Acoustics, Subcommittee SC 2, Building acoustics. The arguments of trigonometric functions are in radians. Acoustic Absorbers and Diffusers, Third Edition: Theory, Design - Google Books Result ISO 10534-2, Acoustics-Determination of sound absorption coefficient and impedance in impedance tubes - Part 2: Transfer-function method. 2. ASTM E1050-10 ISO 10534-2:1998, Acoustics - Determination of sound absorption Table 10.1 Standard test methods for sound absorption Noise source System ISO 10534-2: 1998 Acoustics Determination of sound absorption coefficient and impedance in impedance tubes Part 2: Transferfunction method Random Sound Absorption Coefficients by the Reverberation Room Method ISO 354: 1985