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PEOPLE'S REPUBLIC OF CHINA**

GB/T 22159.1-2012

**Acoustics and vibration -- Laboratory measurement of
vibro-acoustic transfer properties of resilient elements -- Part 1:
Principles and guidelines**

声学 与 振动 弹性 元件 振动-声 传递 特性 实验室 测量 方法 第 1 部分： 原理 与 指南
(English Translation)

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Foreword

GB/T 22159 "sound and vibration elastic element vibration - Laboratory measurement of sound transmission characteristics" is divided into the following five sections.

- Part 1. Principles and Guidelines;
- Part 2. Flexible support level Dodo direct measurement approach stiffness;
- Part 3. Flexible support level Dodo indirect measurement method stiffness;
- Part 4. elements other than resilient supports for translatory motion dynamic stiffness;
- Part 5. Determination of elastic supports low-level dynamic driving point dynamic stiffness method.

This is Part 1 GB/T 22159 of.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This part identical with ISO 10846-1:2008 "Acoustics and vibration elastic element vibration - Laboratory measurement of sound transmission characteristics Method Part 1. Principles and Guidelines. " this section proposed by the Chinese Academy of Sciences.

The acoustics in part by the National Standardization Technical Committee (SAC/TC17) centralized.

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Introduction

Various passive isolators used to reduce the transmission of vibration, such as automobile engine mounts, resilient elastic support buildings, marine machinery Support and flexibility (flexible) coupling and small household appliances in the isolator.

This part of GB/T 22159 other parts of the application guide, which describes the most significant amount of disposable linear vibration transmission elastic member, that laboratory measurement methods and frequency-dependent dynamic stiffness. This section provides the theoretical background, methodological limitations of principles, methods, and how Choose this series of standards in the most appropriate section.

All parts of the GB/T 22159 standard description of experimental conditions, including the use of static preload.

The results obtained by these methods are suitable for preventing and reducing low-frequency vibration elastic element structure sound. However, these methods can not provide A complete description Further information on the elastic member for damping low frequency vibration or shock offsets, the need for additional information to elaborate.

Sound and vibration elastic element vibration - acoustic transfer properties Laboratory measurements - Part 1. Principles and Guidelines

1 Scope

This section GB/T 22159 specifies the application of GB/T 22159.2, GB/T 22159.3, GB/T 22159.4 and GB/T 22159.5 in Laboratory measurement principle elastic element transfer characteristics, and for the selection of the appropriate standard to help.

This section applies to be used to reduce vibration transmission elastic member following.

- a) Audio vibration (20Hz ~ 20kHz sound structure) to the transfer structure, it may cause structural acoustic radiation fluid (such as air sound, the sound of water or other medium of sound);
- b) low frequency vibration is transmitted (usually in the 1Hz ~ 80Hz). For example, it would affect the human body, or when the vibration is too severe cases can it can cause damage to the structure.

This section provides a brief introduction to the test method, and in GB/T 22159.2, GB/T 22159.3, GB/T 22159.4 and GB/T 22159.5 in Further elaborated. Using these measurement data obtained by the test method may be used.

- Production Products manufacturers and suppliers;
- The product development process the required information;
- Product quality control;
- Calculation pass through the vibration of the elastic element.

Ensure conditions for effective test methods.

a) the elastic element is a linear vibration characteristics (including static load deformation characteristics of nonlinear elastic elements, but in a given static pre Under load, the member needs to have an approximately linear vibration characteristics);

b) the contact interface isolator with the adjacent local oscillator and received between the structures can be simplified to the point contact.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member, undated references, the latest edition (including any amendments) applies to this document.

GB/T 2298 Mechanical vibration, shock and condition monitoring of vocabulary (ISO 2041:2009, IDT) Uncertainty ISO/IEC Guide98-3 measurement - Part 3. Measurement Uncertainty guidelines describe [Uncertaintyof measurement-Part 3. Guidetotheexpressionofuncertaintyinmeasurement (GUM1995)].

3 Terms and Definitions

The following terms and definitions apply to this document.

Isolator vibrationisolator Elastic element resilientelement Isolation element for attenuating vibrations transmitted within a certain frequency range specifically designed.