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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22159.2-2012

**Acoustics and vibration -- Laboratory measurement of vibro-acoustic transfer
properties of resilient elements -- Part 2: Direct method for determination of the
dynamic stiffness of resilient supports for translatory motion**

声学 & 振动 弹性元件振动-声传递特性实验室测量方法 第2部分：弹性支撑件平动
动刚度的直接测量方法

(English Translation)

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Foreword

GB/T 22159 in "sound and vibration elastic element vibration - acoustic transfer characteristic measurement laboratory" 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 2 GB/T 22159 of.

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

This part identical with ISO 10846-2:2008 "Acoustics and vibration elastic element vibration - Laboratory measurement of sound transmission characteristics Method Part 2. Elastic support level direct measurement approach "Dodo stiffness.

Consistency correspondence between this part of international documents and normative references of our files are as follows.

--- GB/T 3240 acoustic measurement commonly used frequency (ISO 226. 1975, NEQ) 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 elastic support member is used to reduce the transmission of vibration, such as automobile engine mounts, resilient supports building, marine engine the elastic base and a flexible coupling and small household appliances in the isolator.

This section provides a direct measurement of linear elastic supporting elements dynamic stiffness function. As long as their performance in a given static preload Approximate linear vibration characteristics, the nonlinear static pre-load - displacement characteristics of the resilient support member may also be measured using this method. Headquarters the elastic element into vibration - acoustic transfer properties of one of the series standard laboratory measurement methods, the series also includes a standard measurement principle, indirectly measured the amount and method of driving point of law related content. Part 1 provides a standard selection criteria applicable to this series of guide portion.

Laboratory conditions described in this section involves the use of static preload.

This section describes the results obtained by the method adapted to prevent low-frequency vibration and reduce sound structure of the elastic support member. However, this method it can not provide a complete description of further information on the elastic member for attenuating low frequency vibration and shock offsets, the need for additional information to elaborate.

Sound and vibration elastic element vibration - acoustic transfer Characteristics laboratory measuring methods - Part 2. Flexible Direct measurement method supports translational dynamic stiffness

1 Scope

This section GB/T 22159 requirements for a given pre-load elastic supports translational movement measuring method stiffness. The method involves input End blocking output force and vibration laboratory measurements, referred to as "direct measurement approach." this method is applicable to a portion of the test element parallel flanges (see Fig. 1).

a) b) c)

Note 1: If the elastic supporting member does not have a parallel flanges, requires the use of a parallel flange having an auxiliary fixture and test it as a member Points, in order to meet the conditions required for the measurement.

Note 2: the load is shown by the arrow direction of FIG.

1 with parallel flange elastic supporting member example the elastic element in this section are directed mainly used to reduce.

a) the audible sound of low frequency (typical value is between 20Hz ~ 500Hz) of the structure-borne vibration, which can sometimes lead to structural radiation Undesired fluid sound (sound such as air, water, sound, or other media voices).

b) low frequency vibration (typical value is between 1Hz ~ 80Hz) can be spread in the human body, or when such vibration is very grave, any size member hazard.

Note 1: In fact, due to the size limit testing device, the method can not be used too big or too small elastic supporting member.

Note 2: This method can also be used for continuous sample support member with reed mats and strips constructed. These samples can be fully described in this Part is characteristic of complex systems Sub-user responsibility.

This section covers the test element and the vertical flange and parallel translational measurements.

Direct measurement of the frequency range applicable law is 1Hz ~ fUL, fUL usually depends on test systems.

Note 3: Due to the type of test systems and test element of variety, so fUL usually change. In this section, there is no test system defines a fixed Frequency range, but the actual test data subject, such as the 6.1 to 6.4.

This section uses the measurement data obtained by the method can be used.

--- Production and supply product information provided by manufacturers;

--- The product development process the required information;

--- Product quality control;