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

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**Acoustics and vibration -- Laboratory measurement of vibro-acoustic transfer
properties of resilient elements -- Part 3: Indirect method for determination of the
dynamic stiffness of resilient supports for translatory motion**

声学 & 振动 弹性件振动 声传递特性实验室测量方法 第3部分：弹性支撑件平动
刚度的间接测量方法

(English Translation)

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Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative references	
3 Terms and definitions	
4 Principle	
5 Requirements for measuring instruments	
5.1 Normal translational	
5.2 Lateral translational	
5.3 Undesirable vibration suppression	
6 12 test device applicability criteria	
6.1 Frequency range	
6.3 Lateral vibration transmission	
6.4 Undesirable vibration input	
6.5 Accelerometer	
6.6 Force Sensors	
6.7 Signal is superimposed	
6.8 Analyzer	
7 Test Procedure	
7.1 Test installation member	
Mounting and connection 7.2 Accelerometer	
Mounting and connection 7.3 exciter	
7.4 Signal source	
7.5 Measurement	
7.6 Linearity Testing	
8 18 test results calculated	
8.1 Calculation of dynamic stiffness	
8.2 Dynamic stiffness 1/3 octave band averages	
8.3 1/3 octave band results are shown	
8.4 Narrowband data indicates	
9 Record content	
10 20 Test Report	

Reverse Annex A (informative) dynamic stiffness of the rotating member
Effect of Annex B (informative) symmetry of the dynamic stiffness matrix of
Annex C (informative) Static load deflection curve
References

Foreword

This part of GB/T 22159 "sound and vibration elastic element vibration - Laboratory measurement of sound transmission characteristics," the series of standards one. GB/T 22159 in "sound and vibration elastic element vibration - Laboratory measurement of sound transmission characteristics" under the general heading comprises the following five section.

--- Part 1. Measurement Principles and Guidelines;

Part --- 2. translational motion of resilient supports direct measurement of stiffness;

--- Part 3. Flexible support level Dodo indirect measurement method stiffness;

--- Part 4. Non-elastic support translational dynamic stiffness;

--- Part 5. Determination of dynamic stiffness of resilient supports for low-point driving method.

This part identical with ISO 10846-3:2002 "Sound & Vibration --- elastic element vibration - Laboratory measurement of sound transmission characteristic square Law --- Part 3. Elastic support level Dodo indirect measurement method stiffness "(in English).

This part of the Annex A, Annex B, Annex C is informative appendix.

This section proposed by the Chinese Academy of Sciences.

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

This part mainly drafted by. Northwestern Polytechnical University, Chinese Academy of Sciences Institute of Acoustics, Tongji University, Hefei University of Technology.

Introduction

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

This section provides linear elastic support dynamic stiffness measurement function indirect method, if the elements of a given static preload exhibit similar Linear vibration

characteristics, this section also includes the non-linear static pre-load - deflection characteristics of elastic support.

This section elastic element vibration - acoustic characteristics of the standard series of laboratory measurements, the series also includes a standard measurement principle, directly Driving method and point method, ISO 10846-1 provides a general guide to select the appropriate standard.

Laboratory conditions as described in this section contains information on how the rational use of static preload. Indirect method for the analysis of the elastic element 20Hz or more Structure-borne sound transmission loss is very useful. However, this method can not be fully characterized for attenuating low frequency vibration or shock isolator displacement characteristics.

GB/T 22159.3-2008/ISO 10846-3:2002 Sound and vibration elastic element vibration - acoustic transfer Characteristics laboratory measuring methods - Part 3. Flexible Support translational motion indirect measurement of stiffness

1 Scope

This section details given in a preloaded condition, resilient supports translational motion measurements stiffness. The method mainly involves Laboratory measurement of vibration transmissibility, called indirect method of measurement. This method is suitable for testing components in parallel with the connecting member (see Figure 1).

Note 1: This section applies to those to reduce vibration audio (20Hz ~ 20kHz sound structure) to the structure of the main transmission of vibration isolators. This type Vibration can radiate unwanted fluid sound (sound such as air, water, sound, or other).

Note 2: In the actual case, the test device size limitations, the method is not used for very small or very large elastic support.

Note 3: This method is also included in the support portion of the continuous measurement sample pad. These samples can be fully showed the characteristics of complex systems used by this section Responsible.

This section also describes the parallel displacement measuring method and in the vertical direction with the DUT connection. Appendix A contains genetically introduced Guiding measurement dynamic stiffness of the movable member.

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

- Production and supply product information provided by manufacturers;
- Information on the product development process required;
- Calculated by the vibration isolator transmissibility.

Note 1: when the elastic member is not parallel with the connecting member, and the need to use auxiliary fixing jig member as part of the test, to meet the required measurements Parallel connections conditions.

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

Figure 1 has a parallel connection of the elastic support member

2 Normative references

The following documents contain provisions which, through reference GB/T 22159 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated references, the latest version applies to this section.

GB/T 22159.3-2008/ISO 10846-3:2002