

ICS 17.160  
CCS J 04



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

**GB/T 30173.1-2013**

---

**Mechanical Vibration and Shock - Resilient Mounting Systems -  
Part 1: Technical Information to Be Exchanged for the  
Application of Isolation Systems**

机械振动与冲击 弹性安装系统 第1部分：用于交换的隔振系统的技术信息  
(English Translation)

**Issued on: December 17, 2013**

**Implemented on: October 1, 2014**

---

**Issued by: Standardization Administration of China**

## Table of Contents

|                                                                                              |  |
|----------------------------------------------------------------------------------------------|--|
| Preface                                                                                      |  |
| Introduction                                                                                 |  |
| 1 Scope                                                                                      |  |
| 2 Normative references                                                                       |  |
| 3 Terms and definitions                                                                      |  |
| Objective 4 Isolation of (mechanical isolation system reasons)                               |  |
| 5 Isolation object                                                                           |  |
| 5.1 Isolation vibration source                                                               |  |
| 5.2 By 2 vibration transducer body                                                           |  |
| 6 Isolation applicability (isolation structure or the timing of the mechanical system)       |  |
| Measurement and Evaluation of the vibrational state 7                                        |  |
| 8 Select Information Isolation System                                                        |  |
| 9 Vibration body vibration source or manufacturer of the need to provide information that is |  |
| 9.1 Overview                                                                                 |  |
| 9.2 Vibration source machine manufacturers need to provide information                       |  |
| 9.3 By vibration body manufacturers need to provide information                              |  |
| 10 Users need to provide information                                                         |  |
| 10.1 Vibration source provided by the user information                                       |  |
| 10.2 User vibrating body needs the information provided by the                               |  |
| 11 Anti-vibration device vendors need to provide information                                 |  |
| Technical Data 11.1 Isolating Device                                                         |  |
| 11.2 Dynamic Performance                                                                     |  |
| 11.3 Durability                                                                              |  |
| 7 11.4 environmental conditions                                                              |  |
| 11.5 Maintenance Requirements                                                                |  |
| 12 Isolation Performance Verification Guide                                                  |  |
| Appendix A (informative) Isolation Principle                                                 |  |
| A.1 Objective                                                                                |  |
| A.2 spring                                                                                   |  |
| A.3 damper                                                                                   |  |
| A.4 combination of spring and damper                                                         |  |

A.5 active isolator

References

## Foreword

GB/T 30173 "Mechanical vibration and shock resilient mounting system" consists of the following two parts.

--- Part 1. Technical information to be exchanged isolation systems;

--- Part 2. Technical information to the railway system relevant applications isolation exchange.

This section GB/T Part of 130,173.

This section drafted in accordance with GB/T 1.1-2009, rules GB/T 20000.2-2009 given.

This section uses the translation method identical with ISO 2017-1:2005 Vibration Isolation "Mechanical vibration and shock resilient mounting system for the exchange of Technical information "system.

This part of the National mechanical vibration, shock and condition monitoring Standardization Technical Committee (SAC/TC53) and focal points.

This section drafted by. China Shipbuilding Industry Corporation seventh eleven Research Institute, China Aircraft Strength Research Institute, China Shipbuilding Industry Set the seventh group companies - San Institute, the Ministry of Railways Product Quality Supervision and Inspection Center Locomotive Inspection Station, China Academy of Railway Sciences saving and environmental protection Labor and Health Research Institute, China Shipbuilding Industry Corporation seventh - four Institute.

## Introduction

This section only for the resilient means.

Some shock and vibration isolator (resilient seated) supplier has a wealth of experience in the application, in most cases, they are very willing to use the background information to help users solve the problem of the use of vibration isolators. But as consumers, users, local oscillator or vibrator body by the manufacturer should not provide Sufficient information with respect, the supplier is often difficult to provide this service.

In addition, because the supplier did not provide sufficient technical information, the user may not be reasonably arranged isolator. Then the user must enter Line isolator test, probably inadvertently repeated suppliers have done.

For some vibration or vibration source body manufacturers by providing vibration isolation

devices. Manufacturers need for this should be obtained about the future from the user Use, location and all relevant information environments.

As a user of this section, the resilient means supplier, or by the local oscillator between the manufacturer and the body vibration technology information exchange guide to the correct Application of vibration isolation system.

Mechanical vibration and shock resilient mounting system Part 1. The vibration isolation system for the exchange of Technical information

## 1 Scope

GB/T 30173 requirements of this section shall ensure appropriate exchange of vibration isolation system between suppliers users, manufacturers, and by the vibration source vibrating body Use of information. By vibration and mechanical vibration source body may be subjected to vibration or shock, structure, people or sensitive equipment, which usually consists of machine vibration or shock , A railway, road traffic and other external or internal vibration source and other produce, and is transmitted to the building through the ground.

This section applies to new product (or subject to vibration body vibration sources) use, but also suitable for solving vibration problems in neonatal those products previously installed.

This section does not as a design or installation manual isolation system used. Isolation element example given in Appendix A for reference purposes only.

The purpose of this section is a matter for the manufacturer or user of great concern to provide suitable answers. (For example, the mechanical system isolation reasons, Like, timing, method)

## 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. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2298-2010 Mechanical vibration, shock and condition monitoring of vocabulary (ISO 2041:2009, IDT) GB/T 19847-2005 Mechanical vibration and shock analysis procedure for impact evaluation of mechanical systems impedance analysis provider and make with the exchange of information between the (ISO 9688:1990, IDT) ISO 10846-4:2003 Vibration Sound and Vibration resilient elements - Laboratory measurements of the acoustic transfer characteristics - Part 4. In addition to the elastic support Dynamic stiffness (Acisticsandvibration-Laboratorymeasurementofvibro-acoustictransfer bearing outer translational element propertiesofresilient-Part 4. Dynamicstiffnesssofelementsotherthanresilientsupportsfortransla-torymotion)

### 3 Terms and Definitions

GB/T 2298-2010, GB/T 19847-2005, ISO 10846-4 define the following terms and definitions apply to this document.

Elastic means resilientdevice Located flexible component or system and its support structure between the apparatus body for cuts from the device is transmitted to or from the structure to the structure of the device Vibration or shock.

Zhenyuan vibrationsource Lead to a single or a plurality of solid, liquid or gaseous ambient vibration.

**Note:** The vibration source covers such as machinery, transport, explosion, wave load, wind load and the like.

By vibration body vibrationreceiver Vibration energy emitted by internal or external local oscillator generates all structure or structural elements of the response.