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

GB/T 25631-2010

**Mechanical vibration -- Hand-held and hand-guided machinery
-- Principles for evaluation of vibration emission**

机械振动 手持式和手导式机械 振动评价规则

(English Translation)

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Foreword

This standard is identical with ISO 20643:2005 "Mechanical vibration hand-held and hand-guided mechanical vibration evaluation rules" (in English).

This standard is equivalent to translate ISO 20643:2005.

For ease of use, this standard made the following changes.

- a) will the "international standard" be replaced by "this standard";
- b) use a decimal point instead of a decimal comma "., ., .";
- c) Remove the preface to the international standards.

The Standard Annexes A and C are normative appendix, Appendix B is an informative annex.

The standard proposed by China Machinery Industry Federation.

The standard drilling machines and pneumatic tools by the National Standardization Technical Committee (SAC/TC173) centralized.

This standard was drafted. Tianshui pneumatic drilling machines Tool Institute.

Introduction

Mechanical vibration of human exposure to hand-held or hand-guided machinery can affect human comfort and productivity, but also in some cases Movies Sound human health and safety. In accordance with the provisions of GB/T 15706.2-2007, it must be dangerous vibrations caused by mechanical minimize the residual Vibration danger it must be described in the relevant instruction manual. In theory, the residual vibration of the vibration should be according to the standard or the relevant test the method of reporting the amount of vibration for the foundation, but for the user may request information related to increased

vibration (see GB/T 15706.2-Chapter 62 007).

When the machinery used in the actual operating environment, it may be used for type testing methods can not identify all the mechanism of occurrence of vibration, such as artifacts, Operating procedures and operator and other factors may have an important impact on the amount of vibration, therefore, not a substitute for field measurements with measurements of type testing to evaluate the vibration exposure in the workplace, and should be representative enough preliminary site survey to assess the risk of vibration.

Type Test should be in the amount of vibration field measurement range, and should be less variability. Type test requires a precise and the conditions can be reproduced, the essential requirement is different laboratories within the limits prescribed achieve the same result, which requires test and methods to make clear. Operating conditions clearly defined, should preferably be designed in line with the actual operation of a typical machine. in case Stated operating conditions for a variety of test plans, and test the effects of vibration by a large task, the task may take several tests to determine Constant vibration. In some cases, you can use the machinery in the typical usage of the site is inconsistent, but can provide an equivalent simulation test data.

If the vibration values under actual operating conditions of two mechanically generated a greater difference, then the test should be able to confirm this difference.

This standard is intended to assist standardization technical committee responsible for developing appropriate vibration test methods for specific types of products, and to ensure that the system Given method.

- Enables the user to make a comparison and verification published vibration magnitude;
- Test Method and the nature of each individual as identical as possible, and have the same basic structure;
- Fully consistent with the basic type B standard vibration measurements;

The latest technical knowledge of mechanical vibration test method --- reflect the research.

Machinery vibration test method according to the standards established by the provisions.

The level of development of modern technology a) product vibration parameters to reflect the machinery vibration, and can identify the size of the mechanical vibration;

b) vibration value and uncertainty were to apply to compare the same type of mechanical vibration size, regardless of time or place of trial;

c) vibration value and uncertainty products should be adopted corresponding to the upper quartile of the amount of vibration of the mechanical synthesis;

d) require the operating conditions during the test machine, the condition should be feasible, the typical conditions of normal use;

- e) can identify a greater effect on the mechanical vibration parameters;
- f) to determine the sensor mounting and fixing conditions, the measurement position and the measurement direction;
- g) the provisions of the instrument used during the test;
- h) Records of operating parameters may affect the value of mechanical vibration.

In the absence of proper vibration test method, the present standard can be used as guidelines vibration measurement values, and can be used for determining the recorded, it may affect the test parameters vibration.

This standard is a type B standard as specified in 15706.1-2007 GB/T .

Provisions of this standard allows C-type standard addendum or amendment, however, the C-type standard covered by the standard terms and machinery Mechanical, C-type standard terms of superior design and production of B-type standard terms.

Mechanical vibration handheld and hand-guided machinery Vibration evaluation rule

1 Scope

The proposed draft standard hand-held and hand-guided power mechanical vibration test method is based on the provisions of the type approval test with regard to frequency meter Measurement of vibrations at right rms (rms) acceleration of the hand pass. Test methods for vibration machinery does not exist, this standard can also be used vibrator Measured values and dynamic development of appropriate test methods adequate guidance.

Note: Based on this standard vibration test methods shall be defined controllable, repeatable test results can be reproduced in the testing procedures, test results should as far as possible with the actual work Vibration on the contact surface with the mechanical hand as measured under conditions consistent with, and to quantify its corresponding measurement uncertainty.

This standard applies to hand-held power tools (such as shovels and wheel machines), hand-guided power machinery (such as lawn mowers, tractors uniaxial, vibration Rolling machine) and equipped with a handle, the guide arm or similar control of other types of power tools, and applies to electrical, hydraulic, pneumatic, internal combustion all other power mechanical power source.

This standard does not apply to the work piece by the vibration transmitted to the hands of users fixed machinery.

This standard does not apply to steering wheel or joystick vibrations transmitted (see EN1032) operator is positioned on a movable mechanical time.

This standard is limited to linear vibration on the measurement of mechanical surface of the handle three orthogonal directions.

This standard will be applied to produce a single mechanical shocks and should be lower than the frequency of 5Hz repeated impact of caution. For such a machine, I do not know Channel frequency weighted rms acceleration value and whether the health hazards are, therefore, may be required to increase the number of measurements. When such a machine is improved vibration Measurement methods should be considered for information CENISO /T S15694 in.

This standard does not make vibration limits or recommended vibration, measuring human exposure to the workplace does not give any guidance or built Meetings, information on these, please refer to GB/T 14790.1 and ENISO 5349-2.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 2298-1991 Mechanical vibration and shock term (neqISO 2041:1990) GB/T 14790.1-2009 Mechanical vibration of human exposure to hand-transmitted vibration measurement and evaluation - Part 1. General requirements (ISO 5349-1:2001, IDT) GB/T 15619-2005 human exposure mechanical vibration and shock Vocabulary (ISO 5805:1997, IDT) ISO 5347 (all parts), vibration and shock sensor calibration methods the calibration method ISO 16063 (all parts), vibration and shock sensor Measurement and calibration EN12096 mechanical vibration values ENV28041 body vibration response measurement instruments (ISO 8041:1990)

3.1 Terms and Definitions

GB/T 2298-1991 and GB/T 15619-2005 determined and the following terms and definitions apply to this standard.