

### SLOVENSKI STANDARD SIST EN ISO 5349-2:2002/A1:2015

01-oktober-2015

Mehanske vibracije - Merjenje in vrednotenje izpostavljenosti ljudi pri prenosu vibracij na roke - 2. del: Praktični napotki za merjenje na delovnem mestu (ISO 5349 2:2001/Amd 1:2015)

Mechanical vibration - Measurement and evaluation of human exposure to handtransmitted vibration - Part 2: Practical guidance for measurement at the workplace (ISO 5349 2:2001/Amd 1:2015)

iTeh STANDARD PREVIEW
Mechanische Schwingungen - Messung und Bewertung der Einwirkung von Schwingungen auf das Hand-Arm System des Menschen - Teil 2: Praxisgerechte Anleitung zur Messung am Arbeitsplatz - Änderung 1 (ISO 5349 2:2001/Amd 1:2015)

SIST EN ISO 5349-2:2002/A1:2015

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Vibrations mécaniques - Mesurage et évaluation de l'exposition des individus aux vibrations transmises par la main - Partie 2: Guide pratique pour le mesurage sur le lieu de travail (ISO 5349 2:2001/Amd 1:2015)

Ta slovenski standard je istoveten z: EN ISO 5349-2:2001/A1:2015

ICS:

13.160 Vpliv vibracij in udarcev na Vibration and shock with

liudi respect to human beings

SIST EN ISO 5349-2:2002/A1:2015 en,fr,de

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July 2015

ICS 13.160

#### **English Version**

Mechanical vibration - Measurement and evaluation of human exposure to hand-transmitted vibration - Part 2: Practical guidance for measurement at the workplace (ISO 5349 2:2001/Amd 1:2015)

Vibrations mécaniques - Mesurage et évaluation de l'exposition des individus aux vibrations transmises par la main - Partie 2: Guide pratique pour le mesurage sur le lieu de travail (ISO 5349 2:2001/Amd 1:2015)

Mechanische Schwingungen - Messung und Bewertung der Einwirkung von Schwingungen auf das Hand-Arm-System des Menschen - Teil 2: Praxisgerechte Anleitung zur Messung am Arbeitsplatz - Änderung 1 (ISO 5349 2:2001/Amd 1:2015)

This amendment A1 modifies the European Standard EN ISO 5349-2:2001; it was approved by CEN on 24 January 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN CENELEC Management Centre has the same status as the official versions.

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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

#### EN ISO 5349-2:2001/A1:2015 (E)

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EN ISO 5349-2:2001/A1:2015 (E)

#### **European foreword**

This document (EN ISO 5349-2:2001/A1:2015) has been prepared by Technical Committee ISO/TC 108 "Mechanical vibration, shock and condition monitoring" in collaboration with Technical Committee CEN/TC 231 "Mechanical vibration and shock" the secretariat of which is held by DIN.

This Amendment to the European Standard EN ISO 5349-2:2001 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2016, and conflicting national standards shall be withdrawn at the latest by January 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### iTeh STANEndersement notice VIEW

The text of ISO 5349-2:2001/Amd 112015 has been approved by CEN as EN ISO 5349-2:2001/A1:2015 without any modification.

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### INTERNATIONAL STANDARD

ISO 5349-2

First edition 2001-08-01 **AMENDMENT 1** 2015-07-01

Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration —

Part 2:

Practical guidance for measurement at the workplace ANDARD PREVIEW

Teh STANDARD PREVIEW (SIAMENDMENT 1;)

Vibrations mécaniques — Mesurage et évaluation de l'exposition des individus aux vibrations transmises par la main — https://standards.iteh.avcatalog/standards/sist/2///efb4-3/2a-48bd-8c4c-

3f16b42 Partie 2 : Guide pratique pour le mesurage sur le lieu de travail

AMENDEMENT 1



ISO 5349-2:2001/Amd.1:2015(E)

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#### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="www.iso.org/directives">www.iso.org/directives</a>).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 108, Mechanical vibration, shock and condition monitoring, Subcommittee SC 4, Human exposure to mechanical vibration and shock.

ISO 5349 consists of the following parts, under the general title Mechanical vibration — Measurement and evaluation of human exposure to hand transmitted vibration 2015

- Part 1: General requirements
- Part 2: Practical guidance for measurement at the workplace

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### Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration —

#### Part 2:

### Practical guidance for measurement at the workplace

#### AMENDMENT 1

#### **AMENDMENT 1**

Page 1, Clause 2.

Replace the clause with the following, thereby updating the normative references.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2041, Mechanical vibration, shock and condition monitoring — Vocabulary

ISO 5349-1, Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration — Part 1: General requirements

SIST EN ISO 5349-2:2002/A1:2015

ISO 5805, Mechanical vibration and shock of Human exposure 4-3 Vocabulary

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ISO 8041, Human response to vibration — Measuring instrumentation

ISO 22867, Forestry and gardening machinery — Vibration test code for portable hand-held machines with internal combustion engine — Vibration at the handles

ISO 28927 (all parts), Hand-held portable power tools — Test methods for evaluation of vibration emission

Page 7, 6.1.2.2

Replace the subclause with the following.

#### 6.1.2.2 Vibration magnitude

Hand-held machines can produce high vibration magnitudes. A pneumatic hammer, for example, can generate a maximum acceleration of 20 000 m/s $^2$  to 50 000 m/s $^2$ . However, much of this energy is at frequencies well outside the frequency range used in this part of ISO 5349. Therefore, the accelerometer chosen for the measurement has to be able to operate at these very high vibration magnitudes and yet still respond to the much lower magnitudes in the frequency range from 6,3 Hz to 1 250 Hz (one-third-octave band mid-frequencies). For the use of mechanical filters to suppress vibration at very high frequencies, see Annex C.

Page 7, 6.1.3

Replace the subclause with the following.

#### **6.1.3** Location of accelerometers

Vibration measurements in accordance with ISO 5349-1 should be made at or near the surface of the hand (or hands) where the vibration enters the body. Preferably, the accelerometer should be located