ICS 13.160, 13.340.40 SLOVENSKÁ TECHNICKÁ NORMA Január 2014

STN	**Mechanické kmitanie a otrasy. Kmitanie pôsobiace na ruky. Metóda merania a hodnotenie prenosu kmitania rukavicami na dlaň ruky (ISO 10819: 2013).**	**STN EN ISO 10819** 01 1424

Mechanical vibration and shock - Hand-arm vibration - Measurement and evaluation of the vibration transmissibility of gloves at the palm of the hand (ISO 10819:2013)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/13

Obsahuje: EN ISO 10819:2013, EN ISO 10819:2013/Cor. Aug.:2013, ISO 10819:2013

Oznámením tejto normy sa ruší
STN EN ISO 10819 (01 1424) z mája 1999

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 10819

July 2013

ICS 13.340.40; 13.160

Supersedes EN ISO 10819:1996

English Version

Mechanical vibration and shock - Hand-arm vibration - Measurement and evaluation of the vibration transmissibility of gloves at the palm of the hand (ISO 10819:2013)

Vibrations et chocs mécaniques - Vibrations main-bras - Mesurage et évaluation du facteur de transmission des vibrations par les gants à la paume de la main (ISO 10819:2013)

Mechanische Schwingungen und Stöße - Hand-Arm-Schwingungen - Messung und Bewertung der Schwingungsübertragung von Handschuhen in der Handfläche (ISO 10819:2013)

This European Standard was approved by CEN on 29 May 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a 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 European Standard 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.

CEN members are the national standards bodies of 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 United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Ref. No. EN ISO 10819:2013: E

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Foreword

This document (EN ISO 10819:2013) 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 European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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.

This document supersedes EN ISO 10819:1996.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

The main changes to the first edition EN ISO 10819:1996 are stronger criteria for antivibration gloves and the addition of a method for measuring the material thickness.

To place anti-vibration gloves on the market of the European Union (EU), manufacturers or their authorised representatives established within the EU shall make sure that they cover all Basic Health and Safety Requirements (BHSRs) applicable to their products under the foreseeable conditions of use for which such Personal Protective Equipment (PPE) is intended (EU Directive 89/686/EEC on PPE). If the relevant harmonized European Standards do not cover all applicable BHSRs they have, in addition to the application of these standards, to assess the conformity to those BHSRs not covered by using other relevant technical specifications and test methods.

This European Standard EN ISO 10819 is intended to confirm the vibration reducing properties of gloves placed on the EU market as anti-vibration gloves.

To mark anti-vibration gloves with the CE conformity mark they must also satisfy the BHSRs of the PPE Directive using harmonised European Standards, such as EN 388 and EN 420. As such, manufacturers or their authorised representatives established within the EU shall make an application for type-examination to an approved inspection body (notified body).

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.

Endorsement notice

The text of ISO 10819:2013 has been approved by CEN as EN ISO 10819:2013 without any modification.

Annex ZA
(informative)
Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 89/686/EEC on Personal protective equipment.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

WARNING Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

Correction Notice

Reference: **EN ISO 10819:2013**

Title: Mechanical vibration and shock - Hand-arm vibration - Measurement and evaluation of the vibration transmissibility of gloves at the palm of the hand (ISO 10819:2013)

Work Item: 00231094

Brussels, 2013-08-07

Please include the following minor editorial correction(s) in the document related to:

the following language version(s) :
- ☒ English
- ☒ French
- ☐ German

for the following procedure :
- ☐ PQ/UQ
- ☐ Enquiry
- ☐ 2nd Enquiry
- ☐ Parallel Enquiry
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- ☐ Parallel Formal Vote
- ☐ 2nd Parallel Formal Vote
- ☐ UAP
- ☐ TC Approval
- ☐ 2nd TC Approval
- ☐ Publication
- ☒ Parallel Publication

It has been brought to our attention that this document, issued on 2013-07-24, requires modification.

The Foreword now contains information regarding the background of the project..

Please find enclosed the updated English and French version.

We apologise for any inconvenience this may cause.

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INTERNATIONAL STANDARD

ISO 10819

Second edition
2013-07-15

Mechanical vibration and shock — Hand-arm vibration — Measurement and evaluation of the vibration transmissibility of gloves at the palm of the hand

Vibrations et chocs mécaniques — Vibrations main-bras — Mesurage et évaluation du facteur de transmission des vibrations par les gants à la paume de la main

Reference number
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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, www.iso.org/directives.

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, www.iso.org/patents.

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

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*.

This second edition cancels and replaces the first edition (ISO 10819:1996), of which it constitutes a technical revision. The main changes are stronger criteria for antivibration gloves and the addition of a method for measuring the material thickness.

Introduction

Because of the growing demand to reduce health risks associated with exposure to hand-transmitted vibration, gloves with vibration-reducing materials are often used to attenuate vibration transmitted to the hands. These gloves normally provide little reduction in hand-transmitted vibration at frequencies below 150 Hz. Some gloves can increase the vibration transmitted to the hands at these low frequencies. Gloves with vibration-reducing materials that meet the requirements of this International Standard to be classified as an antivibration glove can be expected to reduce hand-transmitted vibration at frequencies above 150 Hz. These gloves can reduce but not eliminate health risks associated with hand-transmitted vibration exposure.

Field observations indicate that gloves with vibration-reducing materials can result in positive and negative health effects. Positive health effects can occur with gloves that reduce finger tingling and numbness and that keep the hands warm and dry. Negative health effects can occur with gloves that increase the vibration transmitted to the hands at low frequencies and that increase hand and arm fatigue because they increase the hand grip effort required to control a vibrating machine.

Gloves tested in accordance with the requirements of this International Standard are evaluated in a controlled laboratory environment. The actual vibration attenuation of a glove in a work environment can differ from that measured in a controlled laboratory environment.

Vibration transmissibility measurements made in accordance with the requirements of this International Standard are performed only at the palm of the hand. The transmission of vibration to the fingers is not measured. When evaluating the effectiveness of a glove with a vibration-reducing material used to reduce vibration transmitted to the hand, vibration transmission to the fingers should also be assessed. However, research subsequent to the publication of this International Standard is needed to develop a measurement procedure that can be used to measure the vibration transmissibility of gloves at the fingers.

The measurement procedure specified in this International Standard only addresses glove properties that can reduce health risks associated with hand-transmitted vibration in work environments. It does not address glove properties necessary to reduce other hand-related health and safety risks in work environments.

The measurement procedure specified in this International Standard can also be used to measure the vibration transmissibility of a material that is being evaluated for use to cover a handle of a machine or for potential use in a glove.

INTERNATIONAL STANDARD ISO 10819:2013(E)

Mechanical vibration and shock — Hand-arm vibration — Measurement and evaluation of the vibration transmissibility of gloves at the palm of the hand

WARNING — This International Standard defines a screening test procedure for measuring the vibration transmission through gloves with an embedded vibration-reducing material. Many factors not addressed in this International Standard can influence the transmission of vibration through these gloves. Therefore, use the vibration transmissibility values obtained in accordance with this International Standard with caution in the assessment of the vibration-reducing effects of gloves.

1 Scope

This International Standard specifies a method for the laboratory measurement, data analysis, and reporting of the vibration transmissibility of a glove with a vibration-reducing material that covers the palm, fingers, and thumb of the hand. This International Standard specifies vibration transmissibility in terms of vibration transmitted from a handle through a glove to the palm of the hand in one-third-octave frequency bands with centre frequencies of 25 Hz to 1 250 Hz.

The measurement procedure specified in this International Standard can also be used to measure the vibration transmissibility of a material that is being evaluated for use to cover a handle of a machine or for potential use in a glove. However, results from this test cannot be used to certify that a material used to cover a handle meets the requirements of this International Standard to be classified as an antivibration covering. A material tested in this manner could later be placed in a glove. When this is the case, the glove needs to be tested in accordance with the measurement procedure of this International Standard and needs to meet the vibration attenuation performance requirements of this International Standard in order to be classified as an antivibration glove.

NOTE ISO 13753[1] defines a method for screening materials used for vibration attenuation on the handles of machines and for gloves.

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*

ISO 5805, *Mechanical vibration and shock — Human exposure — Vocabulary*

ISO 8041, *Human response to vibration — Measuring instrumentation*

IEC 61260, *Electroacoustics — Octave-band and fractional-octave-band filters*

EN 388, *Protective gloves against mechanical risks*

EN 420, *Protective gloves — General requirements and test methods*

