BS EN ISO 10326-1:2016

BSI Standards Publication

Mechanical vibration — Laboratory method for evaluating vehicle seat vibration

Part 1: Basic requirements (ISO 10326-1:2016)

bsi.

National foreword

This British Standard is the UK implementation of EN ISO 10326-1:2016. It supersedes BS EN 30326-1:1994+A2:2011 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GME/21/6, Mechanical vibration, shock and condition monitoring - Human exposure to mechanical vibration and shock.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Mechanical vibration - Laboratory method for evaluating vehicle seat vibration - Part 1: Basic requirements (ISO 10326-1:2016)

Vibrations mécaniques - Méthode en laboratoire pour l'évaluation des vibrations du siège de véhicule - Partie 1: Exigences de base (ISO 10326-1:2016)

Mechanische Schwingungen - Laborverfahren zur Bewertung der Schwingungen von Fahrzeugsitzen - Teil 1: Grundlegende Anforderungen (ISO 10326-1:2016)

This European Standard was approved by CEN on 5 October 2016.

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

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

European foreword

This document (EN ISO 10326-1:2016) 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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 30326-1:1994.

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.

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 10326-1:2016 has been approved by CEN as EN ISO 10326-1:2016 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2006/42/EC [OJ L 157] aimed to be covered

This European Standard has been prepared under a Commission's standardization request [M/396 concerning the development of European Standards related to machinery] to provide one voluntary means of conforming to essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) [OJ L 157].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 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.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2006/42/EC [OJ L 157]

Essential Requirements of Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.8 *Seating* and 1.5.9 *Vibrations*	All normative clauses	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the products falling within the scope of this standard.

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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 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 (see 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.

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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 10326-1:1992), which has been technically revised. It also incorporates the amendments ISO 10326-1:1992/Amd 1:2007 and ISO 10326-1:1992/Amd 2:2011.

A list of all parts in the ISO 10326 series can be found on the ISO website.

Introduction

Drivers, staff and passengers of vehicles (land, air or water) and mobile machinery are exposed to mechanical vibration which interferes with their comfort, working efficiency and, in some circumstances, safety and health. Such vehicles and mobile machines are often fitted with seats that are designed and made in accordance with current state-of-the-art with regard to their capacity to control or reduce transmitted whole-body vibration.

To assist in the development of such seats, specific test codes have been, or are being, produced to evaluate the performance of seats. The following basic requirements have therefore been developed to give guidance for the specification of laboratory testing of vibration transmission through a vehicle seat to the occupant and for the evaluation of the ability of a seat to control the shock arising from over-travel of the suspension.

The seat constitutes the last stage of suspension before the driver. To be efficient at attenuating the vibration, the suspension seat should be chosen according to the dynamic characteristics of the vehicle. Any performance criteria provided should be set in accordance with what is attainable using best design practice. Such criteria do not necessarily ensure the complete protection of the operator against risks associated with exposure to vibration and shock which are generally believed to be risk of spinal injury.

INTERNATIONAL STANDARD ISO 10326-1:2016(E)

Mechanical vibration — Laboratory method for evaluating vehicle seat vibration —

Part 1: Basic requirements

1 Scope

This document specifies basic requirements for the laboratory testing of vibration transmission through a vehicle seat to the occupant. These methods for measurement and analysis make it possible to compare test results from different laboratories for equivalent seats.

It specifies the test method, the instrumentation requirements, the measuring assessment method and the way to report the test result.

This document applies to specific laboratory seat tests which evaluate vibration transmission to the occupants of any type of seat used in vehicles and mobile off-road machinery.

Application standards for specific vehicles refer to this document when defining the test input vibration that is typical for the vibration characteristics of the type or class of vehicle or machinery in which the seat is to be fitted.

NOTE Examples of application standards are given in the bibliography.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2631-1, *Mechanical vibration and shock — Evaluation of human exposure to whole-body vibration — Part 1: General requirements*

ISO 5347 (all parts), *Methods for the calibration of vibration and shock pick-ups*

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

ISO 13090-1, *Mechanical vibration and shock — Guidance on safety aspects of tests and experiments with people — Part 1: Exposure to whole-body mechanical vibration and repeated shock*

ISO 16063 (all parts), *Methods for the calibration of vibration and shock transducers*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp