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Mechanical vibration — Guide to the health effects of vibration on the human body

National foreword

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

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Mechanical vibration - Guide to the health effects of vibration on the human body

Vibrations mécaniques - Guide concernant les effets des vibrations sur la santé du corps humain

Mechanische Schwingungen - Leitfaden über die Wirkung von Schwingungen auf die Gesundheit des Menschen

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European foreword

This document (CEN/TR 12349:2023) has been prepared by Technical Committee CEN/TC 231 “Mechanical vibration and shock”, the secretariat of which is held by DIN.

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This document supersedes CR 12349:1996.

The main changes compared to the previous edition are as follows:

- general information about foot transmitted vibration included;
- subclauses on “Prevention” moved to new informative Annex A;
- glossary moved to Annex B;
- editorial revision to comply with CEN Internal Regulations.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

Introduction

This document is an update of the 1st version from 1996 and it provides a short overview of the knowledge of the possible effects of vibration on the human body at work. It is an informative document which presents general background information for the user of the different European Standards on vibration. Information about existing approaches for prevention is provided in the informative Annex A. A glossary with important terms is listed in Annex B.

Mechanical vibration arises from a wide variety of processes and operations performed in industry, craft, forestry and agriculture, and public utilities. Vibrations are mainly caused by powered processes, hand-held and hand-guided tools, workpieces, or by vehicles. Occupational exposure to vibration can lead to health risks including occupational diseases. Exposure to harmful vibration can induce several complaints and health disorders, mainly at the upper limbs and the lower back. A comprehensive knowledge of effects of vibration on the body with risks for safety and health at work is essential to implement appropriate technical, administrative/organisational, personal protective measures and medical preventive measures.

This knowledge forms the basis for the EU Vibration Directive 2002/44/EC, its national implementation at EU Member States and the continuous updating of this regulatory framework by new scientific knowledge including the technical and medical guides to avoid or minimize occupational risks by vibration exposure at work.