

<b>TNI</b>	<b>Pokyny na tvorbu databáz o pôsobení kmitania na človeka</b>	<b>TNI CEN/TR 17506</b>
		01 1428

Guidance on databases for human vibration

Táto technická normalizačná informácia obsahuje anglickú verziu CEN/TR 17506:2020.  
This Technical standard information includes the English version of CEN/TR 17506:2020.

Táto technická normalizačná informácia bola oznámená vo Vestníku ÚNMS SR č. 09/20

**131699**

**TECHNICAL REPORT****CEN/TR 17506****RAPPORT TECHNIQUE****TECHNISCHER BERICHT**

July 2020

ICS 13.160

English Version

**Guidance on databases for human vibration**

Recommandations relatives aux bases de données  
consacrées aux effets des vibrations sur l'homme

Leitfaden zu Datenbanken für  
Schwingungseinwirkungen auf den Menschen

This Technical Report was approved by CEN on 29 June 2020. It has been drawn up by the Technical Committee CEN/TC 231.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, 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: Rue de la Science 23, B-1040 Brussels**

## Contents

	Page
<b>European foreword.....</b>	<b>4</b>
<b>Introduction .....</b>	<b>5</b>
<b>1 Scope.....</b>	<b>6</b>
<b>2 Normative references.....</b>	<b>6</b>
<b>3 Terms and definitions .....</b>	<b>6</b>
<b>4 Requirements for databases .....</b>	<b>6</b>
<b>5 Policy and quality criteria for data .....</b>	<b>8</b>
<b>5.1 Skills and competencies of measurement technicians.....</b>	<b>8</b>
<b>5.2 Quality of data collection procedure.....</b>	<b>9</b>
<b>5.3 Uncertainty.....</b>	<b>11</b>
<b>5.4 Sharing of data .....</b>	<b>11</b>
<b>Annex A (informative) Guidance on what should be said in the introduction to users of vibration database .....</b>	<b>12</b>
<b>A.1 Objective.....</b>	<b>12</b>
<b>A.2 Target audience .....</b>	<b>12</b>
<b>A.3 Owner information .....</b>	<b>12</b>
<b>A.4 Instructions for use .....</b>	<b>12</b>
<b>A.5 Restriction for use.....</b>	<b>13</b>
<b>A.6 Last updating .....</b>	<b>13</b>
<b>Annex B (informative) Main categories of tools and mobile machines .....</b>	<b>14</b>
<b>B.1 General.....</b>	<b>14</b>
<b>B.2 Hand-arm vibration.....</b>	<b>14</b>
<b>B.2.1 Hand-held tools or machines.....</b>	<b>14</b>
<b>B.2.2 Worked materials .....</b>	<b>42</b>
<b>B.2.3 Activity .....</b>	<b>43</b>
<b>B.2.4 Attachments .....</b>	<b>45</b>
<b>B.3 Whole-body vibration.....</b>	<b>47</b>
<b>B.3.1 Mobile machines.....</b>	<b>47</b>
<b>B.3.2 Surface type.....</b>	<b>61</b>
<b>B.3.3 Surface quality.....</b>	<b>64</b>
<b>B.3.4 Activity .....</b>	<b>65</b>
<b>B.3.5 Accessories .....</b>	<b>67</b>
<b>Annex C (informative) Data traceability.....</b>	<b>68</b>
<b>C.1 General.....</b>	<b>68</b>
<b>C.2 Vibration acquisition and recording traceability.....</b>	<b>68</b>

<b>C.2.1 General .....</b>	<b>68</b>
<b>C.2.2 Hand-arm vibration.....</b>	<b>68</b>
<b>C.2.2.1 Data to be recorded.....</b>	<b>68</b>
<b>C.2.2.2 Presentation of results .....</b>	<b>69</b>
<b>C.2.3 Whole-body vibration.....</b>	<b>71</b>
<b>C.2.3.1 Data to be recorded.....</b>	<b>71</b>
<b>C.2.3.2 Presentation of results .....</b>	<b>71</b>
<b>C.3 Input management.....</b>	<b>72</b>
<b>C.4 Data Output traceability: Provenance.....</b>	<b>73</b>
<b>Annex D (informative) Exchange of human vibration data.....</b>	<b>74</b>
<b>D.1 Introduction.....</b>	<b>74</b>
<b>D.1.1 General .....</b>	<b>74</b>
<b>D.1.2 Considerations when sharing machine vibration data.....</b>	<b>74</b>
<b>D.1.3 Terms and definitions.....</b>	<b>74</b>
<b>D.2 Data exchange.....</b>	<b>75</b>
<b>D.3 Additional data exchange considerations .....</b>	<b>79</b>
<b>Bibliography .....</b>	<b>81</b>

## European foreword

This document (CEN/TR 17506:2020) has been prepared by Technical Committee CEN/TC 231 "Mechanical vibration and shock", the secretariat of which is held by DIN.

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

## Introduction

European legislation — especially the Physical Agents Directive 2002/44/EC (Vibrations at work) — requires that employers assess workplace risks to the health and safety of their employees. EU Machinery Directive (2006/42/EC), Annex I, 1.7.4.3, requires that manufacturers provide information on vibration emission in commercial documents.

There are different types of databases (declared values = emission values, magnitude vibration data = immission values, physiological or epidemiological data).

Generally magnitude vibration databases are splitted into two parts according to the type of exposure: hand-arm or whole-body vibration.

According to their content, databases are assumed to be for:

- a) research (epidemiology, comparison of methods for vibration analysis);
- b) control of exposure (risk assessment, reduced risk);
- c) enforcement;
- d) market surveillance;
- e) compensation cases;
- f) impact analysis for legal regulations;
- g) performance of seat suspension systems.

According to their purpose, databases are elaborated for vibration experts, hygienists or machines users.

**CEN/TR 17506:2020 (E)**

## 1 Scope

The purpose of this document is to give guidelines for elaborating databases on human vibration for different purposes (emission or immission) and types of exposure (hand-arm vibration or whole-body vibration).

This document is restricted to cases where vibration affects persons at work. It is mainly addressed to competent services for the assessment of vibration exposure at the workplace and to national authorities and industrial organizations.

It defines basic requirements to get databanks respecting quality criteria (information to be given regarding exposure, reference standards, machines, persons, key parts, data origin and traceability) taken into account the type of exposure (HAV, WBV).

Although this document has been mainly designed to facilitate the exchange of data between experts, a section explains the minimum information to be provided and precautions to be taken for databases opened to public. The way the data should be formatted to facilitate the exchange between developers of databases is covered.

Also this document provides proper terminology to qualify the different families of vibration sources e.g. tools, machines and working conditions (see Annex B). This document provides a method for classifying the quality of vibration data.

## 2 Normative references

There are no normative references in this document.

**koniec náhľadu – text d'alej pokračuje v platenej verzii STN**