



BSI Standards Publication

# Hand-arm vibration — Guidelines for vibration hazards reduction

Part 2: Management measures at the  
workplace

### National foreword

This Published Document is the UK implementation of CEN/TR 1030-2:2016. It supersedes PD 6585-2:1996 which is withdrawn.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.

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## Hand-arm vibration - Guidelines for vibration hazards reduction - Part 2: Management measures at the workplace

Vibrations main-bras - Guide pour la réduction des risques de vibrations - Mesures de prévention sur le lieu de travail

Hand-Arm-Schwingungen - Leitfaden zur Verringerung der Gefährdung durch Schwingungen - Teil 2: Organisatorische Maßnahmen am Arbeitsplatz

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## European foreword

This document (CEN/TR 1030-2:2016) 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.

This document supersedes CR 1030-2:1995.

The present series CR 1030 / CEN/TR 1030 is composed with the following parts:

- CR 1030-1, *Hand-arm vibration — Guidelines for vibration hazards reduction — Part 1: Engineering methods by design of machinery*;
- CEN/TR 1030-2, *Hand-arm vibration — Guidelines for vibration hazards reduction — Part 2: Management measures at the workplace*.

## Introduction

The habitual and prolonged use of machinery which transmits vibration to the hand can cause disorders of the upper limbs. European legislation — especially the Physical Agents Directive 2002/44/EC (Vibrations at work) — requires that employers assess and take measures to prevent or reduce workplace risks to the health and safety of their employees. The basic strategy to be adopted is defined in the European legislation including the Directive 2002/44/EC and described in the “Non-binding guide to good practice for implementing Directive 2002/44/EC (Vibrations at work)”, Part I “Guide to good practice on hand-arm vibration”, which is addressed to the European Member States. It covers the following areas of measures:

- a) assessment of risks;
- b) identification of necessary preventative and/or protective measures;
- c) organization for the effective implementation of preventative and protective measures;
- d) implementation of an adequate programme of measures to prevent or reduce risks.

This revised Technical Report CEN/TR 1030-2 (first edition was published as CR 1030-2 in 1995) primarily provides additional information and examples to the European “Guide to good practice on hand-arm vibration” (Part I of the Non-binding guide to good practice for implementing Directive 2002/44/EC (Vibrations at work)).

This Technical Report CEN/TR 1030-2 provides additional information for Member States' health and safety authorities or labour authorities as well as managers, health and safety officers, engineers, planning and purchasing staff and others on further aspects of vibration effect reduction and control, which supports the practical implementation of the requirements of the Physical Agents Directive 2002/44/EC (Vibrations at work). Effective protection against vibration generally requires a combination of measures which can be categorized as technical measures and management measures; see Figure 1.

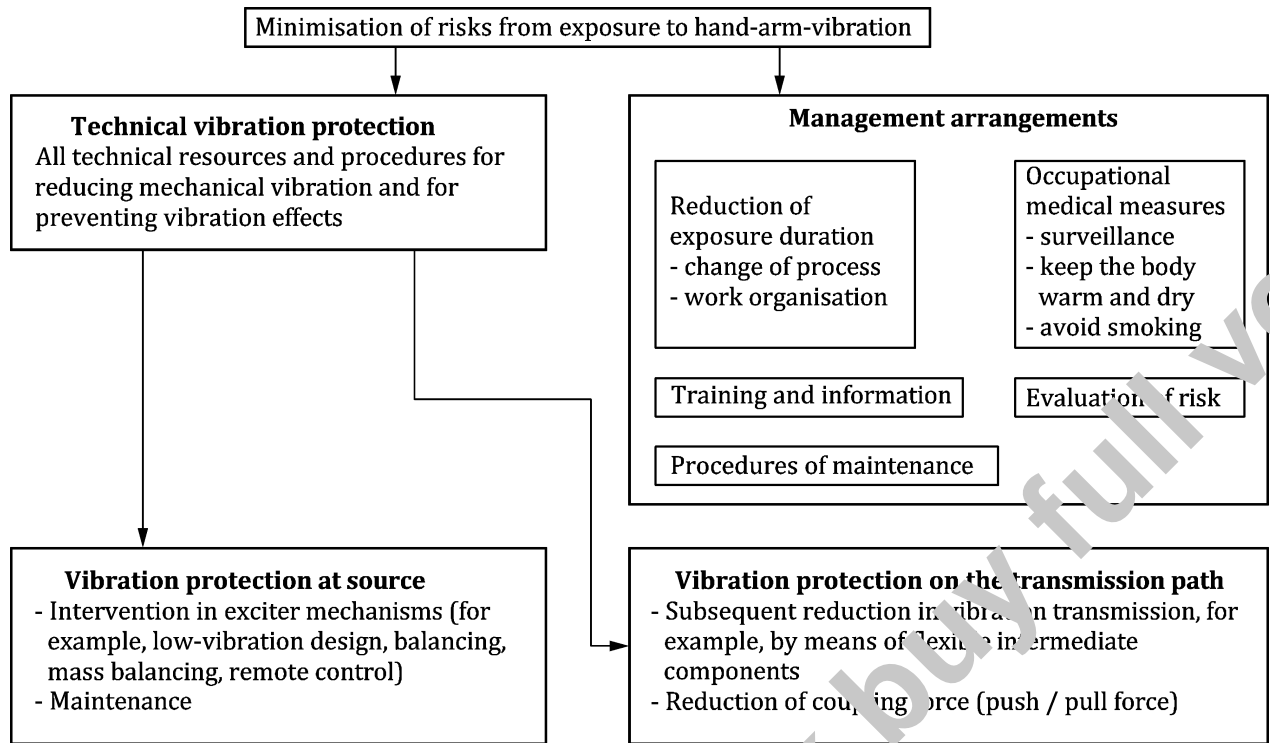


Figure 1 — Minimization of risks from exposure to hand-arm vibration

## 1 Scope

This Technical Report outlines practicable measures for the reduction and control of health hazards associated with exposure to hand-arm vibration at work. It supplements the European “Guide to good practice on hand-arm vibration” and provides a practical professional aid for Member States’ health and safety authorities or labour authorities who write national guidance for managers, health and safety officers, engineers, planning and purchasing staff and others.

This Technical Report covers the following principal aspects:

- a) identification of main sources of hand-arm vibration at work;
- b) vibration reduction by re-considering task, product, process and design;
- c) how to select low-vibration machinery, including vibration reducing features, auxiliary equipment for control of vibration;
- d) other issues, e.g. personal protection and its limitation;
- e) management measures for the control of hand-arm vibration exposure;
- f) health surveillance.

## 2 Normative references

The following documents, in whole or in part, are 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.

CR 1030-1, *Hand-arm vibration — Guidelines for vibration hazards reduction —Part 1: Engineering methods by design of machinery*

EN 12096, *Mechanical vibration - Declaration and verification of vibration emission values*

CEN/TR 15350:2013, *Mechanical vibration - Guideline for the assessment of exposure to hand-transmitted vibration using available information including that provided by manufacturers of machinery*

EN ISO 5349-1:2001, *Mechanical vibration - Measurement and evaluation of human exposure to hand-transmitted vibration - Part 1: General requirements (ISO 5349-1:2001)*

EN ISO 5349-2, *Mechanical vibration - Measurement and evaluation of human exposure to hand-transmitted vibration - Part 2: Practical guidance for measurement at the workplace (ISO 5349-2)*

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

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

## 3 Terms and definitions

For the purpose of this document, the terms and definitions given in EN ISO 5349-2, ISO 2041 and ISO 5805 apply.