



BSI Standards Publication

Guidance on safe use of machinery

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GAMBICA Association Ltd

Health and Safety Executive

Institute of Measurement and Control

Manufacturing Technologies Association

Safety Assessment Federation Limited

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to x, pages 1 to 192, an inside back cover and a back cover.

Introduction by Dave Bench

Health and Safety Executive Director of Science

The Health and Safety Executive (HSE) welcomes the publication by the British Standards Institution of PD 5304:2014, which was developed by Technical Committee MCE/3, *Safeguarding of machinery*, with contributions and support from HSE.

PD 5304:2014 covers the safe use of machinery and provides comprehensive guidance on practical measures and techniques that may be applied to machinery to safeguard operators, maintenance personnel and others. The guidance deals with issues ranging from risk assessment through safeguarding to maintenance and safe working practices, with practical examples throughout.

HSE recognizes that guidance on these topics is required for users of machinery to satisfy duties under the Provision and Use of Work Equipment Regulations 1998 (PUWER 98). PUWER 98 applies to any machine during modification, refurbishment or change of use, and this Published Document will provide guidance to those competent in relevant aspects of machinery safety carrying out these activities.

Developments in the field of machinery safety have been taken into account during the development of PD 5304:2014, and the principles of safeguarding are described with reference to current harmonized European machinery safety standards.

HSE is pleased to have contributed to and supported the development of PD 5304:2014 as its contents form an essential part of the technical framework that should be used to improve safety of machinery in the workplace. Its recommendations on the proper application of safeguards and safe working practices may also contribute towards safety in other sectors.

I am pleased to introduce PD 5304:2014 and commend its guidance to you as a valuable contribution to safe use of machinery in this country.



Dave Bench

Foreword

Publishing information

This Published Document is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 December 2014. It was prepared by Technical Committee MCE/3, *Safeguarding of machinery*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This Published Document supersedes PD 5304:2005, which is withdrawn.

Information about this document

BS 5304:1988 was withdrawn following publication of a series of harmonized European machinery safety standards. Recognizing that BS 5304 contained valuable practical advice, PD 5304:2000, followed by PD 5304:2005, was published to retain the advice contained in BS 5304, with the addition of references to those relevant harmonized European machinery safety standards.

This edition takes account of the requirements of the current harmonized European machinery safety standards, to help the user maintain those safety requirements when upgrading, refurbishing or changing the use of machinery.

NOTE The Bibliography provides a link to an online list of harmonized European standards relevant to machinery safety.

Ensuring that risks associated with the use of machinery are eliminated or reduced is a task that requires unremitting and careful attention at all times. It is hoped that this Published Document will make a worthwhile contribution to the prevention of harm arising from the use of machinery. It is intended to serve as a useful guide to all those with responsibility for safe use of machinery and duties under the Health and Safety at Work etc. Act 1974 and the Provision and Use of Work Equipment Regulations 1998.

Figures are used to illustrate the general application of these principles. However, solutions other than those illustrated can be equally effective.

The safeguarding of machinery is continually being improved. Users of machinery need therefore to make themselves aware of any new codes of practice, etc., which might be published from time to time and any other relevant new developments.

The documents available as downloads from the sites referenced throughout the document were last accessed on 5 December 2014.

Presentational conventions

The guidance in this Published Document is presented in roman (i.e. upright) type. Any recommendations are expressed in sentences in which the principal auxiliary verb is "should".

The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the Clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

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

Compliance with a Published Document cannot confer immunity from legal obligations.

Section 1: General

1.1 Scope

This Published Document provides guidance on the safe use (see **1.3.22**) of machinery, including that supplied prior to the implementation of the Supply of Machinery (Safety) Regulations 1992 [1].

It provides guidance on:

- a) the basic principles of safeguarding, with reference to current harmonized European machinery safety standards; and
- b) the continuing safe use of machinery manufactured in accordance with harmonized European machinery safety standards, in conjunction with the machine supplier's instructions for use.

This Published Document is intended to promote a high standard of machinery safety. It describes and illustrates a variety of protective measures and explains methods by which it is possible to assess which measure(s) it is reasonable to adopt in particular circumstances. It is necessary, however, to consult specific legislation in applying the principles set down. Although reference is made to particular types of machine, specific recommendations are not given for every type of machine.

The guidance can be applied to machinery during its modification, refurbishment, upgrading or change of use in order to satisfy the Provision and Use of Work Equipment Regulations 1998 [2].

NOTE 1 See also Approved Code of Practice: Safe use of work equipment [3].

NOTE 2 Significant modification, refurbishment, upgrading or change of use to existing machinery that results in, for example, changes of the measures used to reduce risk(s) or the introduction of a new hazard(s), can make it necessary to satisfy relevant requirements from the Supply of Machinery (Safety) Regulations 1992 [1], in particular Schedule 3.

NOTE 3 PD 5304 is not intended to be used as an alternative to the current harmonized European machinery safety standards for machinery supplied in accordance with the Supply of Machinery (Safety) Regulations 1992 [1].

1.2 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.

BS EN 953, *Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards*¹⁾

BS EN 1037, *Safety of machinery – Prevention of unexpected start-up*

BS EN 1837, *Safety of machinery – Integral lighting of machines*

BS EN 60204-1:2006+A1:2009, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

BS EN 60947-4-1:2010+A1:2012, *Low-voltage switchgear and controlgear – Part 4-1: Contactors and motor-starters – Electromechanical contactors and motor-starters*

BS EN 60947-5-1:2004+A1:2009, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

¹⁾ BS EN 953 will eventually be superseded by BS EN ISO 14120.