



BSI Standards Publication

Guidance on safe use of machinery

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Contents

Introduction by Dave Bench *viii*

Foreword *ix*

Section 1: General 1

1.1 Scope 1

1.2 Normative references 1

1.3 Terms and definitions 2

Section 2: Strategy for selecting protective measures 5

2.1 General 5

2.2 Selection of protective measures 6

2.3 Avoidance of reasonably foreseeable misuse of guards and protective devices 7

2.4 Phases of machine life 7

Section 3: Risk assessment 9

3.1 General 9

3.2 Severity of harm 11

3.3 Probability of occurrence of harm 11

3.4 Risk evaluation 11

3.5 Documentation 12

Section 4: Identification of hazards 13

4.1 Hazards at machinery 13

4.2 Mechanical hazards 14

4.3 Non-mechanical hazards 28

Section 5: Aspects of machine design to eliminate or reduce risks 33

5.1 Design for safe use 33

5.2 Checks by user 33

5.3 Further considerations for safeguards 34

5.4 Controls 34

5.5 Indicators 37

5.6 Unexpected/unintended start-up 37

5.7 Measures for the escape and rescue of trapped persons 38

5.8 Clutches 38

5.9 Braking systems 39

5.10 Safety catches, overrun, runback and fall-back protection devices 41

5.11 Counterweights and similar devices 41

5.12 Rotating shafts, spindles and couplings 41

5.13 Feeding and take-off devices 43

5.14 Hydraulic and pneumatic systems 43

5.15 Electrical systems 43

5.16 Workholding devices 43

5.17 Lifting, handling and transport 44

5.18 Static and dynamic stability 44

5.19 Lubrication 45

5.20 Lighting 45

5.21 Hygiene and guard design 45

5.22 Safety markings, signs (pictograms) and written warnings 45

5.23 Access (see also Section 11) 46

5.24 Programmable systems 46

Section 6: Selection of safeguards 49

6.1 General 49

6.2 Where access to the hazard zone is not required during normal operation 51

6.3 Where access to the hazardous area can be required during normal operation 52

6.4 Where access to the hazard zone is required during normal operation 52

6.5 Access to the hazardous area for infrequent operation 52

Section 7: Guard design and construction	53
7.1 General	53
7.2 Types of guard	53
7.3 Guard construction	76
7.4 Anthropometric considerations	80
Section 8: Protective devices	81
8.1 Trip devices (see Figure 56 to Figure 61)	81
8.2 Pressure-sensitive cables (see Figure 67)	91
8.3 Hold-to-run control	93
8.4 Enabling device	93
8.5 Two-hand control device (see Figure 68)	93
8.6 Limiting and limited movement control devices	94
8.7 Mechanical restraint device (see Figure 69 and Figure 70)	95
8.8 Emergency operation – emergency stop and emergency switching off	97
Section 9: Interlocking	103
9.1 Functions of an interlock	103
9.2 Interlocking media	103
9.3 Interlocking methods for power interruption	103
9.4 Interlocking methods incorporating braking, purging, etc., and/or guard locking	105
9.5 Security of interlocking	106
9.6 Electrical interlocking devices	109
9.7 Mechanical interlocking devices	126
9.8 Pneumatic interlocking devices	128
9.9 Hydraulic interlocking devices	132
Section 10: Safety-related control systems associated with protective devices	135
10.1 General	135
10.2 Architectural considerations	135
10.3 Safety-related control systems	158
Section 11: Installation considerations	159
11.1 Layout of machinery and plant	159
11.2 Moving parts of machinery	159
11.3 Services	159
Section 12: Maintenance and safe working practices	161
12.1 General	161
12.2 Maintenance	161
12.3 Safe working practices	162
12.4 Supervisory control	167
12.5 Information and training	168
Annexes	
Annex A (normative) Ergonomic data	171
Annex B (informative) Common types of failures associated with safety-related interlocking control systems	179
Annex C (informative) Essentials of a permit to work form	187
Bibliography	189
List of figures	
Figure 1 – Enclosed tools at a power press	5
Figure 2 – Iterative process to reduce risk	10
Figure 3 – Individual parts of machines causing one or more types of injury, e.g. hazards at an abrasive wheel	14
Figure 4 – Entanglement caused by contact with a single rotating surface	15
Figure 5 – Entanglement caused by catching on projections or in gaps	16
Figure 6 – Drawing-in hazards between two counter-rotating parts	16
Figure 7 – Entanglement caused by catching between rotating and other moving parts	16
Figure 8 – Entanglement caused by catching between rotating and fixed parts	18

Figure 9 – Entanglement caused by catching in materials in motion (swarf)	18
Figure 10 – Friction and abrasion hazards	19
Figure 11 – Cutting hazards	20
Figure 12 – Shear hazards between two machine parts	21
Figure 13 – Shear hazards between a machinery part and a workpiece	22
Figure 14 – Removal of shear trap by design	22
Figure 15 – Gap cover to prevent shear trap	23
Figure 16 – Stabbing and puncture by flying objects	24
Figure 17 – Stabbing and puncture by rapidly moving parts of machinery or pieces of material	24
Figure 18 – Impact hazards	25
Figure 19 – Crushing hazards	26
Figure 20 – Drawing-in hazards between rotating and tangentially moving surfaces	27
Figure 21 – Roller conveyor: first idle roller free to prevent drawing-in	28
Figure 22 – Foot pedal protected from accidental operation by means of a cover	35
Figure 23 – Guarding of shafts and couplings: Fixed guard for a transmission shaft and coupling	42
Figure 24 – Tractor power take-off drives	42
Figure 25 – Telescopic type guard	43
Figure 26 – Fundamental considerations involved in guarding a machine	49
Figure 27 – Fixed enclosing guard constructed of wire mesh and angle section preventing access to transmission machinery from all directions	54
Figure 28 – Fixed guards for chains and chain wheels	55
Figure 29 – Example of a quick release fixed guard	56
Figure 30 – Use of flat plate or angle section to prevent access to in-running nips	56
Figure 31 – Feeding material to a pair of rollers	57
Figure 32 – Small horizontal table, stiffened to prevent deflection, spanning the full width of a calender	57
Figure 33 – Use of fixed curve metal plates to prevent access to in-running nips	58
Figure 34 – Fixed guard that allows continuous observation of the in-running nip point	58
Figure 35 – Captive drawer	59
Figure 36 – Feeding of bulk material from the floor above the machine	60
Figure 37 – Transparent tunnel guard with conveyor belt	61
Figure 38 – Example of interlocked tunnel guard	61
Figure 39 – Example of interlocking tunnel guard on food preparation machinery	62
Figure 40 – Fixed distance guard fitted to a press brake	63
Figure 41 – Example of guarding an industrial robot with a perimeter fence type guard	64
Figure 42 – Close contour perimeter fence guard	64
Figure 43 – Power-operated guards and doors	66
Figure 44 – Balance weights to reduce the effort required to open a rise and fall guard	67
Figure 45 – Latch (restraint) to protect against gravity fall of an air-operated guard which has no balance weight	67
Figure 46 – Sensing guard fitted to a riveting gun	69
Figure 47 – Example of interlock on a hopper extension	70
Figure 48 – Adjustable guard for a radial or pedestal drilling machine	72
Figure 49 – Adjustable guard on a circular sawing machine	73
Figure 50 – Adjustable guard for the cutters of horizontal milling machines	73
Figure 51 – Self-adjusting guard arrangements for snipper cross-cut sawing machine	74
Figure 52 – False table and fixed guard applied to a milling machine	75
Figure 53 – False table and interlocking guard applied to a rotating table pie and tart machine	76

- Figure 54 – Support for a horizontally sliding guard 79
- Figure 55 – Opening in a fixed guard at a metal cutting guillotine 80
- Figure 56 – Distance bar trip guard 82
- Figure 57 – Trip device on a flat work ironing machine (calender) used in laundries 83
- Figure 58 – Trip device for horizontal two-roll mills used in the rubber industry 84
- Figure 59 – Trip device that protects against the hazards associated with goods on a conveyor passing into wrapping machinery 84
- Figure 60 – Trip bar for mitigating the risk of trapping between a down-running conveyor and the casing of a final prover 85
- Figure 61 – Trip device for drilling machines 86
- Figure 62 – Electro-sensitive protective equipment using light curtains (AOPDs) as a trip and presence-sensing device at a press brake 87
- Figure 63 – Electro-sensitive protective equipment using light curtains (AOPDs) as a trip device at a depalletizer 88
- Figure 64 – Electro-sensitive protective equipment using light curtains (AOPDs) as presence-sensing devices at a robot-served pressure die casting machine 88
- Figure 65 – Electro-sensitive protective equipment equipped with active opto-electronic devices responsive to diffuse reflection (AOPDDR) used as trip and presence-sensing devices on an automated guided vehicle (AGV) 89
- Figure 66 – Pressure-sensitive mat safeguarding the clamping and bending jaws of an automatic horizontal tube bender 91
- Figure 67 – A typical pressure-sensitive cable installation used as a trip device 92
- Figure 68 – Two-hand control device 94
- Figure 69 – Augmenting an interlocking guard with a mechanical restraint device 96
- Figure 70 – Mechanical restraint 97
- Figure 71 – Emergency stop button 98
- Figure 72 – Emergency stopping of conveyors 100
- Figure 73 – Defeatability of sliding interlocking guards 107
- Figure 74 – Defeatability of hinged interlocking guards 108
- Figure 75 – Mounting of individual position switches 111
- Figure 76 – Position switches or valves actuated by rotary cams 112
- Figure 77 – Actuation of roller-operated position switches or valves by a cam 112
- Figure 78 – Position switches actuated by rotary cams (guard in open position) 113
- Figure 79 – Large hinged guards 113
- Figure 80 – Position switch operating in the non-positive mode (incorrect application) 114
- Figure 81 – Two position switches operating in opposite modes, mounted side-by-side, each actuated by its own cam mounted on the guard hinge 114
- Figure 82 – Mounting of position switches in opposite modes 115
- Figure 83 – Solenoid locking interlock switch 116
- Figure 84 – Captive-key switch 117
- Figure 85 – Time delay captive-key unit 117
- Figure 86 – Trapped-key interlocking systems 118
- Figure 87 – Practical application of the trapped-key interlocking system shown diagrammatically in Figure 86a) 119
- Figure 88 – Internal mixing machine: example of the use of a trapped-key interlocking system 120
- Figure 89 – Example use of a non-contact switch where an interlocking guard has to be removed 122
- Figure 90 – Manually-operated delay device 124
- Figure 91 – Locking a guard closed with a shotbolt 125
- Figure 92 – Guard locking power interlocking 126
- Figure 93 – Interlocking guard for positive clutch power press 127
- Figure 94 – Principles of mechanical interlocking 128
- Figure 95 – Diagrams for a cam-operated pneumatic interlocking valve 130

- Figure 96 – Interlocking guard with and without guard locking 131
- Figure 97 – Power interlocking in hydraulic systems 134
- Figure 98 – Designated architecture 136
- Figure 99 – Prevention of earth fault sneak circuits 140
- Figure 100 – Example of single-control system interlocking 141
- Figure 101 – Single-control system interlocking for arresting the motion of a cylinder 144
- Figure 102 – Dual-control system interlocking without cross-monitoring: both channels pneumatic 145
- Figure 103 – Principles of pneumatic and electrical circuits: dual-control system interlocking with cross-monitoring, one control channel pneumatic, one electric (monitoring channel electric) 146
- Figure 104 – Use of an equalizing valve 149
- Figure 105 – Control interlocking for machinery performing functions in sequence 150
- Figure 106 – Locking a guard closed (see also 9.4.3) 151
- Figure 107 – Single-control system interlocking used to interrupt the main hydraulic supply to the actuator 152
- Figure 108 – Dual-control system interlocking without cross-monitoring 153
- Figure 109 – Dual-control system interlocking with cross-monitoring 154
- Figure 110 – Hydraulic press: control of stroke 156
- Figure 111 – Rapid closing of an upstroking press 157
- Figure 112 – Multi-padlockable hasp 165
- Figure 113 – Example of padlock complete with danger board for locking-off after isolation 165
- Figure 114 – Gravity or spring-operated latch 166
- Figure A.1 – Safety distance for reaching upwards 172
- Figure A.2 – Diagram showing dimensions a , b and c used in Table A.1 and Table A.2 173
- Figure A.3 – Safety distances for openings of irregular shape 178
- Figure C.1 – Example of a permit to work form 187

List of tables

- Table A.1 – Low risk values of a , b and c for Figure A.2 174
- Table A.2 – High risk values of a , b and c for Figure A.2 175
- Table A.3 – Safety distances 176
- Table A.4 – Safety distances, s_r , through regular openings of size e 177

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.