AS 4024.1602—2006

Australian Standard™

Safety of machinery

Part 1602: Interlocking devices associated with guards—Principles for design and selection

This Australian Standard was prepared by Committee SF-041, General Principles for Guarding of Machinery. It was approved on behalf of the Council of Standards Australia on 1 May 2006.
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The following are represented on Committee SF-041:

Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Department for Administration and Information Services, SA
Department of Consumer and Employment Protection, WorkSafe Division, WA
Department of Primary Industries, Mine Safety, NSW
Engineers Australia
Federal Chamber of Automotive Industries
Human Factors and Ergonomics Society of Australia
Institution of Instrumentation, Control and Automation Australia
National Electrical and Communications Association
National Safety Council of Australia
Office of the Australian Safety and Compensation Council
Safety Institute of Australia
The University of Melbourne
Tractor and Machinery Association of Australia
Victorian WorkCover Authority

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PREFACE

This Standard was prepared by the Standards Australia Committee SF-041, General Principles for the Guarding of Machinery as a revision, in part, of AS 4024.1—1996 *Safeguarding of machinery,* Part 1: *General principles*.

This Standard was prepared to give guidance to machinery designers and writers of product safety standards on how to design or to select interlocking devices associated with guards. It may also be used as guidance in controlling the risk where there is no product safety standard for a particular machine.

Relevant sections of this Standard, used alone or in conjunction with provisions from the standards, can be used as a basis for verification procedures for the suitability of a device for interlocking duties.

The Appendices contain examples complying with the principles set out in this Standard, and where their use has been validated by experience. Other solutions may be adopted, provided that they comply with the same principles.

During its work, the Committee considered a number of standards dealing with the safety of machinery originating within the European Community. Many of these European Standards are now being adopted virtually unchanged as International Standards by the International Organization for Standardization (ISO), and the Committee has agreed to continue to use material emanating from both CEN and ISO in this new edition, to maintain consistency with previous editions of AS 4024, and other, machine-specific Australian Standards currently under development.

This edition has been published as a series of small parts rather than the single part of AS 4024.1 previously available. In doing this, the Committee has cleared the way for simple revisions in the future. When a new edition of a relevant EN or ISO Standard becomes available, it can be adopted and published within the framework of AS 4024 with a minimum delay, so ensuring continued international alignment.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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1 SCOPE

This Standard specifies principles for the design and selection, independent of the nature of the energy source, of interlocking devices associated with guards (as defined in AS 4024.1201.

It also provides requirements specifically intended for electrical interlocking devices (see Clause 7).

This Standard covers the parts of guards which actuate interlocking devices.

NOTE: Requirements for guards are given in AS 4024.1601. The processing of the signal from the interlocking device to stop and immobilize the machine is dealt with in AS 4024.1501.

2 OBJECTIVE

The objective of this Standard is to enable designers, manufacturers, suppliers, employers and users of machinery to minimize risks to the health and safety of employees working with or otherwise near machinery by providing technical means for designing interlocks.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

AS	
4024	Safety of machinery
4024.1201	Part 1201: General principles—Basic terminology and methodology
4024.1202	Part 1202: General principles—Technical principles
4024.1301	Part 1301: Risk assessment—Principles for risk assessment
4024.1501	Part 1501: Design of safety related parts of control systems—General principles of design
4024.1601	Part 1601: Design of controls, interlocks and guarding—Guards—General requirements for the design and construction of fixed and movable guards
4024.1801	Part 1801: Safety distances and safety gaps—Safety distances to prevent danger zones being reached by the upper limbs
60204	Safety of machinery—Electrical equipment of machines
60204.1	Part 1: General requirements (IEC 60204-1, Ed.5 (FDIS) MOD)
60947	Low-voltage switchgear and controlgear
60947.5.1	Part 5.1: Control circuits devices and switching elements—Electromechanical control circuit devices
ISO	
13855	Safety of machinery—Positioning of protective equipment with respect to the approach speeds of parts of the human body.