

Australian Standard™

Safety of machinery

**Part 1502: Design of safety related parts
of control systems— validation**

STANDARDS
Australia



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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
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PREFACE

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

During its work, the Committee considered a number of Standards originating within the European Community in the field of safety of machinery. Many of these European Standards are 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. This action will maintain consistency with previous editions of AS 4024.1 and other machine-specific Australian Standards.

This edition has been published as a series of Parts rather than the single Standard previously published as AS 4024.1. In doing this, the Committee has cleared the way for simple revisions in the future. When a new edition of a relevant Standard becomes available at the international level, it will 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 the procedures and conditions to be followed for the validation, by both analysis and testing of the safety functions provided, and the category achieved for the safety related parts of the control system in compliance with AS 4024.1501, using the design rationale provided by the designer.

This Standard does not give complete validation requirements for programmable electronic systems and therefore can require the use of other standards.

NOTE: Requirements for programmable electronic systems, including embedded software, are given in the AS 61508 series.

2 OBJECTIVE

The objective of this Standard is to provide designers, manufacturers, suppliers, installers and users of safety related parts of control systems with the means of minimizing risks to the health and safety of those working with or otherwise near machinery fitted with safety related parts within their control systems.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

AS

1447	Hot-rolled spring steel
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 of risk assessment
4024.1501	Part 1501: Design of safety related parts of control systems—General principles for design
4024.1602	Part 1602: Design of controls, interlocks and guarding—Interlocking devices associated with guards—Principles for design and selection
4024.1603	Part 1603: Design of controls, interlocks and guarding—Prevention of unexpected start up
4024.1604	Part 1604: Design of controls, interlocks and guarding—Emergency stop—Principles for design
60204	Safety of machinery—Electrical equipment of machines
60204.1	Part 1: General requirements (IEC 60204-1 Ed.5 (FDIS) MOD)
60269	Low-voltage fuses
60269.1	Part 1: General requirements
60529	Degrees of protection provided by enclosures (IP Code)
60947	Low-voltage switchgear and control gear
60947.2	Part 2: Circuit-breakers