

Australian Standard<sup>®</sup>

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**Safeguarding of machinery**

**Part 1: General principles**

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This Australian Standard was prepared by Committee SF/41, General Principles for the Guarding of Machinery. It was approved on behalf of the Council of Standards Australia on 23 February 1996 and published on 5 July 1996.

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The following interests are represented on Committee SF/41:

Australian Manufacturing Workers Union  
Department for Industrial Affairs  
Department of Employment, Vocational Education, Training and Industrial Relations, Qld  
Electricity Supply Association of Australia  
Ergonomics Society of Australia  
Federal Chamber of Automotive Industries  
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Metal Trades Industry Association of Australia  
National Safety Council of Australia  
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AS 4024.1—1996

Australian Standard<sup>®</sup>

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**Part 1: General principles**

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## PREFACE

This Standard was prepared by the Standards Australia Committee SF/41 on General Principles for the Safeguarding of Machinery as a revision of AS 4024.1(Int)—1992, *Safeguarding of machinery, Part 1: General principles*.

During the preparation of this Standard the Committee retained the concepts provided in BS 5304, *Code of practice for safety of machinery* and considered a number of documents emanating from the International Standards Organization Committee on Safety of Machinery.

It is intended that this Standard contain the general underlying principles for the safety of machine systems in general, whilst leaving requirements unique to a particular type of machine in a Standard covering the guarding of that class of machine. Therefore, within the Standard, emphasis has been placed on the principles of risk control relative to the hazards associated with machine systems in general, without regard to a specific type. In this way, it is hoped that engineers, designers and other persons who may be required to design, build, or evaluate the effectiveness of machine safety systems, will be able to apply the principles to many applications not specifically included herein. Particular emphasis has been placed on the selection of appropriate safeguarding methods.

The content of the Standard is presented in a logical sequence, starting with the basic principles to be followed and leading to hazard recognition and risk assessment.

The Sections dealing with the selection of risk control measures, machine and control system design and safeguarding introduce a hierarchy of guarding, which become increasingly stringent as the perceived risk increases.

All phases of machine life are considered and sections dealing with installation and maintenance are included because during these phases, the risk of injury is frequently higher than that experienced during normal production phases. The importance of safe working practices as part of the overall machine system is emphasized.

The Standard applies ergonomic principles to machinery and workplace design, with the intended result that this will lead to improved safety and operational efficiency.

Developments are constantly being introduced and experience being gained. This not only serves to counter the dangers associated with new technologies and manufacturing methods but also to improve the safety of traditional types of machinery. Users of this Standard should therefore make themselves aware of any new codes of practice which may be published from time to time and any other relevant new developments.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

## CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE . . . . .	7
1.2 OBJECTIVE . . . . .	7
1.3 APPLICATION . . . . .	7
1.4 REFERENCED AND RELATED DOCUMENTS . . . . .	7
1.5 DEFINITIONS . . . . .	8
SECTION 2 GENERAL GUIDANCE	
2.1 PRINCIPLES OF MACHINE SAFETY . . . . .	10
2.2 EXISTING MACHINERY . . . . .	10
2.3 SELECTION OF RISK CONTROL METHODS . . . . .	10
2.4 PHASES OF MACHINE LIFE . . . . .	10
2.5 CONSULTATION . . . . .	11
SECTION 3 THE APPLICATION OF ERGONOMICS TO THE SAFE USE OF MACHINE SYSTEMS	
3.1 GENERAL . . . . .	12
3.2 ANTHROPOMETRY . . . . .	12
3.3 HUMAN PERFORMANCE . . . . .	14
3.4 HUMAN ERROR . . . . .	16
3.5 THE WORKING ENVIRONMENT . . . . .	17
SECTION 4 IDENTIFICATION OF HAZARDS	
4.1 DANGERS FROM MACHINERY . . . . .	18
4.2 MECHANICAL HAZARDS . . . . .	18
4.3 NON-MECHANICAL HAZARDS . . . . .	28
SECTION 5 RISK ASSESSMENT	
5.1 RISK ASSESSMENT . . . . .	30
5.2 INFORMATION FOR RISK ASSESSMENT . . . . .	32
5.3 DETERMINATION OF THE LIMITS OF MACHINE SYSTEM . . . . .	32
5.4 HAZARD IDENTIFICATION . . . . .	32
5.5 RISK ESTIMATION . . . . .	33
5.6 RISK EVALUATION . . . . .	36
5.7 ACHIEVEMENT OF RISK REDUCTION OBJECTIVES . . . . .	36
5.8 COMPARISON OF RISK . . . . .	37
SECTION 6 MACHINERY DESIGN	
6.1 GENERAL . . . . .	38
6.2 ELIMINATION OF HAZARDS BY DESIGN . . . . .	38
6.3 CONTROL DEVICES AND SYSTEMS . . . . .	41
6.4 INDICATORS . . . . .	47
6.5 CLUTCHES . . . . .	47
6.6 BRAKING SYSTEM . . . . .	47
6.7 SAFETY CATCHES, OVERRUN, RUN-BACK AND FALL-BACK PROTECTION DEVICES . . . . .	49
6.8 SUSPENDED EQUIPMENT . . . . .	49

6.9	ROTATING SHAFTS, SPINDLES AND COUPLINGS . . . . .	49
6.10	FEEDING AND TAKE-OFF DEVICES . . . . .	51
6.11	HYDRAULIC AND PNEUMATIC SYSTEMS . . . . .	51
6.12	ELECTRICAL SYSTEMS . . . . .	51
6.13	WORKHOLDING DEVICES . . . . .	52
6.14	LIFTING, HANDLING AND TRANSPORT . . . . .	52
6.15	MECHANICAL RESTRAINT DEVICE . . . . .	52
6.16	LUBRICATION . . . . .	53
6.17	STABILITY . . . . .	53
6.18	LIGHTING . . . . .	54
6.19	HYGIENE . . . . .	55
6.20	SAFETY COLOURS AND SYMBOLS . . . . .	55
6.21	ACCESS . . . . .	55
6.22	ASSURANCE OF SYSTEM INTEGRITY . . . . .	56
 SECTION 7 SELECTION OF SAFEGUARDS		
7.1	GENERAL . . . . .	58
7.2	ACCESS . . . . .	58
7.3	OPERATIONAL ACCESS (WHERE ACCESS IS REQUIRED DURING NORMAL OPERATION) . . . . .	60
7.4	MAINTENANCE ACCESS (WHERE ACCESS IS NOT REQUIRED DURING NORMAL OPERATION) . . . . .	61
 SECTION 8 PHYSICAL BARRIERS—DESIGN AND CONSTRUCTION		
8.1	GENERAL . . . . .	66
8.2	TYPES OF PHYSICAL BARRIERS . . . . .	66
8.3	GUARD CONSTRUCTION . . . . .	87
8.4	ANTHROPOMETRIC CONSIDERATIONS . . . . .	89
 SECTION 9 SAFETY DEVICES		
9.1	GENERAL . . . . .	91
9.2	TRIP DEVICES . . . . .	91
9.3	CONTROL DEVICE . . . . .	97
 SECTION 10 INTERLOCKING CONSIDERATIONS		
10.1	FUNCTIONS OF AN INTERLOCK . . . . .	101
10.2	INTERLOCKING MEDIA . . . . .	101
10.3	TYPES OF INTERLOCKING DEVICES . . . . .	101
10.4	INTERLOCKING PRINCIPLES . . . . .	102
10.5	TYPICAL FORMS OF INTERLOCKING DEVICES . . . . .	102
10.6	ACTUATION MODES OF MECHANICALLY ACTUATED POSITION DETECTORS . . . . .	103
10.7	ARRANGEMENT AND FASTENING OF POSITION DETECTORS . . . . .	103
10.8	ARRANGEMENT AND FASTENING OF CAMS . . . . .	104
10.9	REDUCING THE POSSIBILITY OF COMMON CAUSE FAILURES . . . . .	105
10.10	GUARD LOCKING DEVICE . . . . .	106
10.11	DELAY DEVICES . . . . .	106
10.12	DESIGN TO MINIMIZE DEFEAT POSSIBILITIES . . . . .	107
10.13	ENVIRONMENTAL CONSIDERATIONS . . . . .	108

10.14	INTERLOCKING DEVICES INCORPORATING MECHANICALLY ACTUATED POSITION SWITCHES . . . . .	108
10.15	INTERLOCKING DEVICES INCORPORATING NON-MECHANICALLY ACTUATED POSITION SWITCHES (PROXIMITY SWITCHES AND MAGNETIC SWITCHES) . . . . .	109
10.16	SELECTION OF INTERLOCKING DEVICES . . . . .	109
10.17	DESIGN OF SAFETY RELATED PARTS OF CONTROL SYSTEMS . . . . .	111
10.18	MECHANICAL CONSIDERATIONS . . . . .	115
10.19	HYDRAULIC AND PNEUMATIC CONSIDERATIONS . . . . .	118
10.20	ELECTRICAL CONSIDERATIONS . . . . .	123
 SECTION 11 WORKING ENVIRONMENT CONSIDERATIONS		
11.1	ENVIRONMENT . . . . .	128
11.2	CORROSION . . . . .	128
11.3	HYGIENE AND GUARD DESIGN . . . . .	128
11.4	COOLANT AND SWarf . . . . .	128
11.5	GASES, MIST, FUMES, VAPOUR AND DUST . . . . .	128
11.6	NOISE . . . . .	128
11.7	LIGHTING . . . . .	128
 SECTION 12 INSTALLATION CONSIDERATIONS		
12.1	GENERAL . . . . .	130
12.2	LAYOUT OF MACHINERY AND PLANT . . . . .	130
12.3	MOVING PARTS OF MACHINERY . . . . .	130
12.4	SERVICES . . . . .	130
12.5	COMMISSIONING . . . . .	130
 SECTION 13 MAINTENANCE		
13.1	GENERAL . . . . .	132
13.2	SERVICE LIFE . . . . .	132
13.3	INSPECTION OF SAFEGUARDS . . . . .	132
13.4	REPLACEMENT OF SAFEGUARDS . . . . .	132
13.5	GENERAL MAINTENANCE . . . . .	132
13.6	CONFINED SPACES . . . . .	132
 SECTION 14 ISOLATION AND ENERGY DISSIPATION		
14.1	GENERAL . . . . .	133
14.2	MACHINE START-UP . . . . .	133
14.3	ISOLATION AND ENERGY DISSIPATION . . . . .	134
14.4	MEANS INTENDED FOR ISOLATION AND ENERGY DISSIPATION . . . . .	134
 SECTION 15 SAFEWORK PROCEDURES		
15.1	GENERAL . . . . .	138
15.2	INSTRUCTION AND TRAINING . . . . .	139
15.3	SAFEWORK PROCEDURES . . . . .	140
15.4	PERSONAL PROTECTION . . . . .	143
15.5	PROVISION OF INFORMATION . . . . .	143

## APPENDICES

A	ERGONOMIC DATA . . . . .	145
B	HAZARD IDENTIFICATION . . . . .	153
C	METHODS FOR ANALYSING HAZARDS AND ESTIMATING RISKS . . . . .	157
D	TWO-HAND CONTROL DEVICES . . . . .	159
E	INTERLOCKING DEVICES . . . . .	167
F	GUIDANCE FOR THE SELECTION OF CATEGORIES . . . . .	180
G	SELECTION OF CATEGORY AND INTERLOCK SYSTEM . . . . .	183

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STANDARDS AUSTRALIA

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**Australian Standard**

**Safeguarding of machinery**

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Part 1: **General principles**

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S E C T I O N 1 S C O P E A N D G E N E R A L

**1.1 SCOPE** This Standard identifies the hazards and risks arising from the use of industrial machinery and describes methods for the elimination or minimization of these hazards and risks, as well as the safeguarding of machinery and the use of safe working practices. The Standard describes and illustrates a number of safety principles and provides guidelines by which it is possible to assess which measure or methods it is practicable to adopt in particular circumstances. Although reference is made to specific types of machine, specific recommendations are not given for every type of machine or application.

Reference is made to non-mechanical hazards but these are not covered in detail.

**1.2 OBJECTIVE** The objective of this Standard is to enable designers, manufacturers, suppliers, employers and users of machinery to minimize the risks to health and safety of employees and others working with or otherwise near machinery.

**1.3 APPLICATION** This Standard is intended for those who design, manufacture, supply, install, use, maintain or modify machinery, machinery guarding or safety devices.

The Standard is also intended to be used by those concerned with information, instruction and training in safe working practices, and identifies the existence of Standards for a number of particular classes of machine.

Alternative methods of providing safety to those given may be used provided that the level of safety offered by the alternative is at least equivalent to that provided by the methods given in this Standard.

Some regulatory authorities have specific requirements relating to the forms that guarding may take and to the order in which guarding techniques may be considered. Users of this Standard should therefore make themselves aware of any specific requirements in the jurisdiction where the machinery will be used.

This Standard may still be used in these jurisdictions to identify the most appropriate level of system integrity required, and to provide guidance in other aspects of machine system safety.

**1.4 REFERENCED AND RELATED DOCUMENTS** The following documents are referred to in this Standard:

AS

- 1219 Power presses—Safety requirements
- 1318 Use of colour for the marking of physical hazards and the identification of certain equipment in industry
- 1319 Safety signs for the occupational environment
- 1345 Identification of the contents of piping conduits and ducts