AS 1674.2:2025

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STANDARDS Australia

Safety in welding and allied processes

Part 2: Electrical

AS 1674.2:2025

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Australian Cablemakers Association
Australian Industry Group
Australian Manufacturing Workers Union
Department of Primary Industries and Regional Development
Electrical Compliance Testing Association of Australia
Resources Safety & Health Queensland
TAFE NSW
Weld Australia
Workplace Health and Safety Queensland

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Originated in part as AS CC5—1947 and MP 17—1965.
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AS 2745—1984 revised and redesignated as AS 1674.2—1990.
Fourth edition 2025.

How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Standards Australia Committee EL-019, Electrical Welding Plant, to supersede AS 1674.2:2007.

The objective of this document is to specify safety requirements for the welder and any assistants conducting arc welding and allied processes to minimize associated hazards and reduce the risk of electric shock.

This document is one of a series of two Standards, with AS 1674.1, that deal with safety in welding and allied processes.

This edition of AS 1674.2 includes the following major changes:

(a) Clarification of welding environment categories.

(b) Revision of control measure requirements for Category B and Category C environments.

(c) New open-circuit voltage limits for Category B environments.

(d) Removal of a.c. processes from Category C environments.

(e) Clarification of the role of welding safety observer.

(f) Revision of requirements for confined spaces.

(g) Inclusion of a recommended daily start-up checklist.

(h) Provision of additional guidance in hazardous situations (Appendix A).

(i) Provision of additional electrical accident case studies (Appendix B).

The inclusion of roles and responsibilities in AS 1674.2:2025 was approved by Standards Australia's Standards Development and Accreditation Committee on 02/11/2023.

The terms "normative" and "informative" are used in Standards 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.

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Part 2: Electrical

Section 1 Scope and general

1.1 Scope

This Standard sets out safety requirements for the welder and any assistants conducting arc welding and allied processes to minimize associated hazards and reduce the risk of electric shock.

This document provides requirements for cable connections for alternating and direct current power sources, hazard-reducing devices and other ancillary equipment. The document also specifies practices and safeguards for welders, giving examples of situations that pose a significant risk of electric shock.

This document does not cover electrical safety requirements for —

(a) welding underwater; or

(b) resistance welding (refer to AS 2799 and IEC 62135-1).

NOTE 1 Typical electrical hazards are described in Appendix A.

NOTE 2 Examples of fatal electrical accidents are reported in Appendix B.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

NOTE Documents for informative purposes are listed in the Bibliography.

AS 2812, *Welding, brazing and cutting of metals — Glossary of terms*

AS 60974.1, *Arc welding equipment, Part 1: Welding power sources (IEC 60974-1:2017+AMD1:2019 CSV (ED.5.1) MOD)*

AS 60974.4, *Arc welding equipment, Part 4: Periodic inspection and testing (IEC 60974-4:2016 (ED. 3.0) MOD)*

AS/NZS 1995, *Welding cables*

AS/NZS 2865, *Confined spaces*

AS/NZS 3000, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*

AS/NZS 3100, *Approval and test specification — General requirements for electrical equipment*

AS/NZS 3760, *In-service safety inspection and testing of electrical equipment and RCDs*

IEC 60974-3, *Arc welding equipment, Part 3: Arc striking and stabilizing devices*

IEC 60974-5, *Arc welding equipment, Part 5: Wire feeders*

IEC 60974-6, *Arc welding equipment, Part 6: Limited duty equipment*

IEC 60974-7, *Arc welding equipment, Part 7: Torches*

IEC 60974-11, *Arc welding equipment Part 11: Electrode holders*