

Australian Standard™

**Electrical installations—Surface mines
and associated processing plant**

Part 1: Scope and definitions

This Australian Standard was prepared by Committee EL-033, Electrical Installations for Outdoor Sites Under Heavy Conditions. It was approved on behalf of the Council of Standards Australia on 28 July 2004.
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The following are represented on Committee EL-033:

Australian Electrical and Electronic Manufacturers Association
Construction and Mining Equipment Association of Australia
Department of Mineral Resources NSW
Department of Natural Resources and Mines (Qld)
Minerals Council of Australia
Mining Interests
Ministry of Economic Development (New Zealand)
Society of Automotive Engineers-Australasia

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PREFACE

This Standard was prepared by Standards Australia Committee EL-033, Electrical Installations for Outdoor Sites Under Heavy Conditions, to supersede AS 3007.1—1987 which was based on IEC 60621-1:1987, *Electrical installations for outdoor sites under heavy conditions (including open-cast mines and quarries)*, Part 1: *Scope and definitions*.

This Standard was produced from AS 3007.1—1987. Even though much of the technical content is sourced from IEC 60621-1, this Standard is not equivalent to IEC 60621-1. It has been updated to align with Standards Australia style including the following:

- (a) Numbering of all clauses.
- (b) The addition of lists of referenced Standards.
- (c) Updating of references to other Standards.

This Standard is Part One of a series that includes the following:

AS

3007	Electrical installations—Surface mines and associated processing plant
3007.1	Part 1: Scope and definitions (this Standard)
3007.2	Part 2: General protection requirements
3007.3	Part 3: General requirements for equipment and ancillaries
3007.4	Part 4: Additional requirements for specific applications
3007.5	Part 5: Operating requirements

The object of the AS 3007 series is to specify requirements for the installation and operation of electrical apparatus and systems in open-cut mines, quarries, stockpiles and similar installations to provide for the safety of persons, livestock and property.

AS 3007.1 (this Standard) outlines the scope of the AS 3007 series and provides definitions for some of the terms used. AS 3007.2 specifies measures which are required for protection against electric shock in normal service from direct contact with live parts, for protection against electric shock from parts which may become live in the event of a fault (indirect contact), and for protection against the effects of overcurrent resulting from overload or short-circuit conditions. AS 3007.3 prescribes general requirements for equipment and ancillaries associated with the electrical installation. AS 3007.4 sets out the requirements which are specific to particular installations, together with exemptions from the general requirements of AS 3007.2 and 3, which apply for such installations. AS 3007.5 sets out the normal operating procedures which should be carried out to ensure the safety of personnel.

The AS 3007 series recognizes several types of power supply system and specifies the protective measures which are necessary for each system. Requirements for protection of persons from indirect contact are based on the concept of permissible voltage versus time limits, which take into account the pathophysiological effects of electric current passing through the human body, typical industry conditions, and the probability of persons being in contact with the plant.

The terms ‘normative’ and ‘informative’ are used 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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STANDARDS AUSTRALIA**Australian Standard****Electrical installations—Surface mines and associated processing plant****Part 1: Scope and definitions****1 SCOPE**

This Standard (and other standards in the AS 3007 series) applies to the installation and operation of electrical apparatus and systems associated with outdoor sites under heavy conditions, including open-cast mines, quarries, stockpiles and the like. It applies particularly to electrical apparatus and systems used for the following:

- (a) Winning, stacking and primary processing machinery.
- (b) Secondary processing machinery.
- (c) Transport conveying systems.
- (d) Pumping and water supply systems.
- (e) Power generating and distribution equipment.
- (f) Control, signal, supervisory and communication systems.
- (g) Ancillaries.

The AS 3007 series does not cover temporary and provisional places of work in the open, such as building sites and earth-moving sites, unless the equipment used is similar to that used in surface mining applications.

2 REFERENCED DOCUMENTS

The following standards are referred to in this Standard:

AS

- 1852 International Electrotechnical Vocabulary
- 1852 (151) Chapter 151: Electrical and magnetic devices
- 1852 (826) Chapter 826: Electrical installations of buildings

- 3007 Electrical installations—Surface mines and associated processing plant
- 3007.2 Part 2: General protection requirements

IEC

- 60071 Insulation co-ordination
- 60071-1 Part 1: Terms, definitions, principles and rules
- 60621 Electrical installations for outdoor sites under heavy conditions (including open-cast mines and quarries)
- 60621-1 Part 1: Scope and definitions

3 OBJECT

The object of the AS 3007 series is to set out guiding principles for the installation and operation of electrical equipment so as to ensure the safety of persons, livestock and property, and the proper functioning of the plant.