Australian Standard®

Electrical equipment for explosive atmospheres—Selection, installation and maintenance

Part 6: Increased safety e

This Australian Standard was prepared by Committee EL/14, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 10 December 1992 and published on 15 March 1993.

The following interests are represented on Committee EL/14:

Australian Chamber of Commerce and Industry

Australian Electrical and Electronic Manufacturers Association

Australian Institute of Petroleum

Department of Mineral Resources, N.S.W.

Department of Resource Industries, Qld

Electrical Contractors Association of Australia

Electricity Supply Associations of Australia

Institute of Instrumentation and Control

Insurance Council of Australia

The WorkCover Authority, N.S.W.

Regulatory authorities (electrical)

Testing interests

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PREFACE

This Standard was prepared by the Standards Australia Committee on Electrical Equipment in Hazardous Areas, to supersede AS 1076, Part 6—1977, ***Code of practice for the selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres***, Part 6: ***Apparatus with type of protection e —Increased safety.***

This is Part 6 of a series of Standards covering the selection, installation and maintenance of electrical equipment for use in areas where flammable materials are generated, processed, handled or stored, and which therefore are potentially explosive.

Each part details requirements appropriate to one of the types of protection techniques used to achieve electrical safety. Part 1 of this series details general requirements pertaining to all types of protection techniques and therefore must be read in conjunction with this Part.

Other Standards in this series are as follows:

Part 1: *General requirements*
Part 2: *Flameproof enclosure d*
Part 7: *Intrinsic safety i*
Part 10: *Class II hazardous areas*

Other parts of this Standard, dealing with the techniques of

Encapsulation m
Pressurization p
Sand filled q
Special protection s
Non-sparking n

are in the course of preparation.

The requirements specified in this Standard are supplementary to and not alternative to any requirements which would apply to installations in non-hazardous areas (see AS 3000).

In its terminology, definitions and general treatment of the subject, this Part takes into account BS 5345, ***Selection, installation and maintenance of electrical apparatus for use in potentially explosive atmospheres (other than mining or explosive processing and manufacture)***, Part 6: ***Installation and maintenance requirements for electrical apparatus with type of protection e, Increased safety.*** Acknowledgment is made of this assistance.

Some of the more significant changes in this edition are as follows:

(a) A thorough editorial re-arrangement to improve the grouping of related clauses.

(b) Definitions and terminology have been revised to align with other Australian and international Standards.

(c) Requirements which relate to the installation of equipment and wiring have been substantially revised and are now presented in the mandatory form.

This Standard is intended to apply to installations, or alterations or additions thereto, made or carried out after the date of publication, but it is recommended that it should not be applied on a mandatory basis before 13 September 1993. However, if work on an installation is commenced before publication of this edition, the Authority may grant permission for the installation to be carried out in accordance with AS 1076.6—1977.

Application of different typefaces Three different typefaces are used in this Standard, each of these having a specific purpose, as follows:

(a) Bold type **Bold type opening statements which follow a Clause or Sub-clause heading and define a fundamental principle.**

(b) Normal type These are mandatory requirements which form the substance of a Clause in that they indicate certain methods which satisfy the essential requirements.

(c) Reduced normal type These are explanatory notes which may give advice. They are preceded by 'NOTE'.

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1.1 SCOPE This Standard sets out requirements for the selection, installation and maintenance of increased safety equipment, type of protection e.

This Standard shall be read in conjunction with AS 2381.1, which describes the fundamental considerations which affect the selection, installation and maintenance requirements of all electrical equipment used in hazardous areas.

NOTE: Requirements for the design and construction of increased safety electrical equipment are given in AS 2380.6.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1023 Low voltage switchgear and controlgear—Protection of electric motors
1359 Rotating electrical machines—General requirements
1359.30 Part 30: Duty and rating
1359.41 Part 41: General characteristics
1828 Electrical equipment for explosive atmospheres—Cable glands
1939 Degrees of protection provided by enclosures for electrical equipment (IP Code)
2052 Metallic conduits and fittings
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