Australian Standard®

SELECTION, INSTALLATION AND MAINTENANCE OF ELECTRICAL APPARATUS AND ASSOCIATED EQUIPMENT FOR USE IN EXPLOSIVE ATMOSPHERES (Other than Mining Applications)

Part 1—BASIC REQUIREMENTS

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia
Australian Coal Association
Australian Electrical Manufacturers Association
Department of Defence
Department of Public Works, N.S.W.
Department of Industry and Commerce
Electrical Contractors Associations of Australia
Electricity Supply Association of Australia
Insurance Council of Australia
Oil Companies
State Departments of Explosives
State Departments of Labour and Industry
State Departments of Mines
Statutory Electricity Authorities
Sydney County Council (Testing Interest)

This standard, prepared by Committee EL/14, Electrical Equipment for Hazardous Locations, was approved on behalf of the Council of the Standards Association of Australia on 28 October 1976, and was published on 1 March 1977.

This standard was issued in draft form for public review as Doc. 1738.

Australian Standard®

SELECTION, INSTALLATION AND MAINTENANCE OF ELECTRICAL APPARATUS AND ASSOCIATED EQUIPMENT FOR USE IN EXPLOSIVE ATMOSPHERES (Other than Mining Applications)

Part 1—BASIC REQUIREMENTS

First published . . . . . 1977.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 1133

PREFACE

This standard was prepared by the Association's Committee on Electrical Equipment for Hazardous Locations. It is one of a series of standards dealing with electrical equipment for use in explosive atmospheres, and forms the first part of a general code of practice providing guidance in the classification of hazardous areas and the selection, installation and maintenance of electrical apparatus for use in areas where combustible materials are generated, processed, handled or stored, and which therefore are potentially hazardous. The code is intended to complement the relevant Section of the SAA Wiring Rules (AS 3000, Part 1).

This Part deals with basic requirements and considerations which are fundamental to the use of electrical apparatus in hazardous areas and which therefore provide the basis for the other parts of the standard, which deal with the installation and maintenance requirements appropriate to one of the types of protection which may be used to achieve electrical safety.

The full list of Parts is as follows:

Part 1— Basic Requirements*

Part 2— Classification of Hazardous Areas*

Part 3— Installation and maintenance Requirements for Electrical Apparatus with Type of Protection 'd'—Flameproof Enclosure

Part 4— Installation and Maintenance Requirements for Electrical Apparatus with Type of Protection 'i'—Intrinsically Safe Apparatus and Systems

Part 5— Installation and Maintenance Requirements for Electrical Apparatus with Type of Protection 'p'—Pressurization and Continuous Dilution

Part 6— Installation and Maintenance Requirements for Electrical Apparatus with Type of Protection 'e'—Increased Safety

Part 7— Installation and Maintenance Requirements for electrical Apparatus with Type of Protection 'n'—Non-sparking Apparatus

Part 8— Installation and Maintenance Requirements for Electrical Apparatus with Type of Protection 's'—Special Protection

Part 9— Installation and Maintenance Requirements for Electrical Apparatus with Type of Protection 'o'—Oil-immersed Apparatus and Apparatus with Type of Protection 'q'—Sand-filled Apparatus

Part 10— Installation and Maintenance Requirements for electrical Apparatus for Use with Combustible Dusts

Part 11— Specific Industry Applications

---

* Published.

Part 12— The Use of Gas Detectors

Part 13— Installation and Maintenance Requirements for Instrumentation.

In its terminology, definitions and general treatment of the subject, this standard takes into account corresponding documents issued by the British Standards Institution (BSI) and the International Electrotechnical Commission (IEC) and acknowledgment is made of the assistance received from those sources.

A list of relevant specifications and codes of practice appears in Appendix D of this standard.

In addition to the documents listed in Section 8, this standard requires reference to the following standards:

AS 1026	Impregnated Paper Insulated Cables for Electricity Supply at Working Voltages Up to and Including 33 kV
AS 1125	Conductors in Insulated Electric Cables and Flexible Cords
AS 1802	Trailing Cables for Mining Purposes (Including Underground Coal Mines, Metalliferous Mines, Open-cut Mines, Quarries and Dredges)
AS 3116	Approval and Test Specification for Elastomer Insulated Electrical Cables and Flexible Cables for Working Voltages of 0.6/1 kV
AS 3147	Approval and Test Specification for PVC Insulated Electric Cables and Flexible Cables for Working Voltages of 0.6/1 kV
AS 3191	Approval and Test Specification for Electric Flexible Cords
AS C66, Part 1	Rigid Metallic Conduit for Electrical Wiring
ASTM D56	Method of Test for Flash Point by Tag Closed Tester
ASTM D93	Method of Test for Flash Point by Pensky-Martens Closed Tester
IP 170	Flash Point by the Abel Apparatus