Australian Standard®

Electrical equipment for explosive atmospheres—Electrical systems of dispensing equipment

Part 1: Flammable liquid dispensing equipment

This Australian standard was prepared by Committee EL/14, Electrical Equipment in Hazardous Locations. It was approved on behalf of the Council of the Standards Association of Australia on 31 May 1982 and published on 11 October 1982.

The following interests were represented on the committee responsible for the preparation of this standard:

Australian Coal Association
Australian Electrical and Electronic Manufacturers Association
Australian Institute of Petroleum
Confederation of Australian Industry
Department of Industrial Relations, N.S.W.
Department of Industry and Commerce
Department of Mineral Resources, N.S.W.
Department of Minerals and Energy, Vic.
Department of Mines, Qld
Electrical Contractors Associations of Australia
Electricity Supply Association of Australia
Independent testing interests
Insurance Council of Australia
State electricity regulatory authorities

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Part 1: Flammable liquid dispensing equipment

First published 1979
Second edition 1982

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

ISBN 0 7262 2633 5

PREFACE

This edition of this standard was prepared by the Association's Committee on Electrical Equipment in Hazardous Locations to supersede AS 2229, Part 1—1979.

This standard applies to dispensing equipment for flammable liquids; dispensing equipment for LPG is specified in AS 2229, Part 2. It prescribes requirements in respect of design, construction and marking and includes a section on testing. It is intended for the guidance of manufacturers, users, statutory authorities and associated interests and for use in association with the SAA Wiring Rules.

The major differences between this edition and the 1979 edition are as follows:

(a) Reference is made to AS 2380, Part 1, for grouping of apparatus, temperature classification and marking.

(b) The introduction of two types of dispensing unit, viz Type A and Type B.

(c) The recognition of the use of flexible cords within a dispensing unit.

(d) The addition of requirements for a vapour barrier.

The classification of hazardous areas is described in AS 2430, Classification of Hazardous Areas, Part 1—Explosive Gas Atmospheres.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

ELECTRICAL SYSTEMS OF DISPENSING EQUIPMENT FOR EXPLOSIVE ATMOSPHERES

PART 1—FLAMMABLE LIQUID DISPENSING EQUIPMENT

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for electrical systems of flammable liquid dispensing equipment and for the electrical components which may be used inside the housing of such dispensing equipment. Account is taken of the mechanical and hydraulic equipment.

The tests specified herein are intended as type tests to prove a particular design for compliance with this standard.

1.2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1076 Code of Practice for Selection, Installation and Maintenance of Electrical Apparatus and Associated Equipment for Use in Explosive Atmospheres (Other than Mining Applications)
Part 1—Basic Requirements

AS 1216 Classification, Hazard Identification and Information Systems for Dangerous Goods
Part 1—Classification and Class Labels for Dangerous Goods

AS 1530 Methods for Fire Tests on Building Materials and Structures
Part 1—Combustibility Test for Materials

AS 1826 Special Protection of Electrical Equipment for Explosive Atmospheres

AS 1829 Electrical Equipment for Explosive Atmospheres—Intrinsically Safe Apparatus—Type of Protection i

AS 1939 Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment

AS 1940 SAA Flammable and Combustible Liquids Code

AS 2380 Electrical Equipment for Explosive Gas Atmospheres—Explosion Protection Techniques
Part 1—General Requirements

AS 2430 Classification of Hazardous Areas
Part 1—Explosive Gas Atmospheres

AS 3000 SAA Wiring Rules

AS 3100 Approval and Test Specification for Definitions and General Requirements for Electrical Materials and Equipment

AS 3191 Approval and Test Specification for Electric Flexible Cords

1.3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.3.1 Classes of liquids.

1.3.1.1 *Class A liquid*—a flammable liquid having a flashpoint up to but not including 23°C (IMCO Classes 3.1 and 3.2). (See Note 1.)

1.3.1.2 *Class B liquid*—a flammable liquid having a flashpoint not less than 23°C and up to and including 61°C (IMCO Class 3.3). (See Note 1.)

NOTES:

1. The characteristics of Classes A and B above agree with those of AS 1216, Part 1. The recommendations covering the carriage of dangerous goods by sea, published by the Intergovernmental Maritime Consultative Organization (IMCO) of the United Nations, use similar class boundaries, except that they introduce an additional sub-category to cater for liquids having flashpoints below 18°C.
2. See the definitions for 'liquid' in AS 1940.

1.3.2 Flammable liquid dispensing equipment (hereinafter referred to as 'dispensing equipment')—an assembly of equipment intended for the delivery of flammable liquid from a storage tank through a nozzle to a receiving vessel. The assembly may include an electrically driven pump, a metering device, a counter, a delivery hose, a control nozzle and electric lighting.

1.3.3 Flammable liquid—any Class A liquid, or Class B liquid having a flashpoint of not more than 61°C.

1.3.4 Housing—the enclosure which provides mechanical protection for the electrical equipment used in flammable liquid dispensing equipment. The housing may contain apparatus other than electrical equipment.

1.3.5 Vapour barrier—a barrier system, constructed in accordance with Clause 2.13, which prevents passage of vapour from one place to another.

1.4 GROUPING. Dispensing equipment shall be grouped in accordance with the relevant requirements in Section 1 of AS 2380, Part 1.

1.5 TEMPERATURE CLASSIFICATION. Dispensing equipment shall be temperature-classified in accordance with the relevant requirements in Section 1 of AS 2380, Part 1.