

# Australian Standard 2229, Part 2—1982

---

## ELECTRICAL EQUIPMENT FOR EXPLOSIVE ATMOSPHERES ELECTRICAL SYSTEMS OF DISPENSING EQUIPMENT Part 2—LIQUEFIED PETROLEUM GAS DISPENSING EQUIPMENT



---

**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*

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

---

To keep abreast of progress in industry, Australian standards are subject to continuous review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important therefore that standards users ensure that their standards are up-to-date. Full details of all SAA publications will be found in the Annual List of Australian Standards; these details are supplemented by listings in the SAA monthly journal 'The Australian Standard'. Information on the Annual List and 'The Australian Standard' may be obtained from any sales office of the Association, where details are also available of the current status of individual standards. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

AUSTRALIAN STANDARD

**ELECTRICAL EQUIPMENT FOR  
EXPLOSIVE ATMOSPHERES  
ELECTRICAL SYSTEMS OF  
DISPENSING EQUIPMENT  
Part 2  
LIQUEFIED PETROLEUM GAS  
DISPENSING EQUIPMENT**

**AS 2229, Part 2—1982**

First published .....	1979
Second edition .....	1982



**PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA  
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.**

ISBN 0 7262 2634 3

12 OCT 1982

## PREFACE

This edition of this standard was prepared by the Association's Committee on Electrical Equipment in Hazardous Locations to supersede AS 2229, Part 2—1979.

This standard applies to dispensing equipment for liquefied petroleum gas; dispensing equipment for flammable liquids is specified in AS 2229, Part 1. 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 prohibition on fitting of pump motors within the dispensing equipment.
- (c) The introduction of a dispensing unit designated Type A which contains several mandatory safety features.
- (d) The recognition of the use of flexible cords within a dispensing unit.

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

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1982

Users of standards are reminded that copyright subsists in all SAA publications. No part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia.

## CONTENTS

	<i>Page</i>
<b>SECTION 1. SCOPE AND GENERAL</b>	
1.1 Scope.....	4
1.2 Referenced Documents .....	4
1.3 Definitions.....	4
1.4 Grouping .....	4
1.5 Temperature Classification .....	4
<b>SECTION 2. DESIGN AND CONSTRUCTION</b>	
2.1 General .....	5
2.2 Method of Protection in Zone I Area .....	5
2.3 Housing .....	5
2.4 Pump Motors .....	5
2.5 Internal Wiring .....	5
2.6 Terminal Enclosures .....	5
2.7 Earthing and Bonding .....	5
2.8 Cabling to Intrinsically Safe Equipment .....	5
2.9 Electrical Power Outlets .....	5
2.10 Sealing .....	5
2.11 Safety Devices .....	5
<b>SECTION 3. COMPLIANCE WITH STANDARDS</b>	
3.1 General Requirements of AS 3100 .....	6
3.2 Specific Requirements of This Standard .....	6
3.3 Components .....	6
<b>SECTION 4. MARKING</b>	
4.1 Marking .....	6
<b>SECTION 5. TESTS</b>	
5.1 General .....	7
5.2 Tests for Compliance with AS 3100 .....	7
5.3 Surface Temperature Test .....	7
5.4 Test of Housing .....	7
<b>APPENDIX A. ADDITIONAL REQUIREMENTS FOR TYPE A DISPENSING UNITS.....</b>	
	<b>8</b>

## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

for

**ELECTRICAL SYSTEMS OF DISPENSING EQUIPMENT  
FOR EXPLOSIVE ATMOSPHERES**

## PART 2—LIQUEFIED PETROLEUM GAS DISPENSING EQUIPMENT

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This standard specifies requirements for electrical systems of liquefied petroleum gas dispensing equipment and for the electrical components and hydraulic components which may be used inside the housing of such dispensing equipment or with dispensing equipment without a housing.

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 1530	Methods for Fire Tests on Building Materials and Structures Part 1—Combustibility Test for Materials
AS 1596	SAA LP Gas Code
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 2380	Electrical Equipment for Explosive Gas Atmospheres—Explosion Protection Techniques Part 1—General Requirements
AS 2420	Fire Test Methods for Solid Insulating Materials and Non-metallic Enclosures Used in Electrical Equipment

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 Housing**—the enclosure which provides mechanical protection for the electrical equipment used in liquefied petroleum gas dispensing equipment. The housing may contain apparatus other than electrical equipment.

**1.3.2 Liquefied petroleum gas (LPG)**—a material which is composed of any of the following hydrocarbons or mixtures of all or any of them: propane ( $C_3H_8$ ), propylene ( $C_3H_6$ ), butane ( $C_4H_{10}$ ) or butylene ( $C_4H_8$ ).

NOTE: See AS 1596 for requirements governing the storage and handling of LPG.

**1.3.3 Liquefied petroleum gas dispensing equipment** (hereinafter referred to as 'dispensing equipment')—an assembly of equipment intended for the delivery of LPG. The assembly may include a metering device, a counter, a delivery hose, a control nozzle and electric lighting.

**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.