S/S BY
AS/NZS 2293/1&3-1995

Amdt 1. 1988-03-07

Standards
Association of
Australia

Australian Standard®
2293.1—1987

EMERGENCY EVACUATION LIGHTING IN BUILDINGS

Part 1—DESIGN AND INSTALLATION

20 NOV 1987

This Australian Standard was prepared by Committee LG/7, Emergency Lighting in Buildings. It was approved on behalf of the Council of the Standards Association of Australia on 26 May 1987 and published on 3 August 1987.

The following interests are represented on Committee LG/7:

Association of Consulting Engineers Australia

Australian Electrical and Electronic Manufacturers Association

Building Owners and Managers Association of Australia Limited

Confederation of Australian Industry

Department of Employment and Industrial Relations

Department of Housing and Construction

Electricity Supply Association of Australia

Government of New South Wales

Government of Queensland

Government of South Australia

Government of Tasmania

Government of Victoria

Government of Western Australia

Illuminating Engineering Societies of Australia

Insurance Council of Australia Ltd

State fire authorities

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic 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 they are in possession of the latest edition, and any amendments thereto.*

Full details of all SAA publications will be found in the Catalogue of SAA Publications; this information is supplemented each month by SAA's journal 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of the Association, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 86084.

AUSTRALIAN STANDARD

EMERGENCY EVACUATION LIGHTING IN BUILDINGS

Part 1 DESIGN AND INSTALLATION

AS 2293.1—1987

First published as AS 2293, Part 1 1979
Second edition 1983
Third edition 1987

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.
ISBN 0 7262 4669 7

PREFACE

This Standard was prepared by the Association's Committee on Emergency Lighting in Buildings to supersede AS 2293, Part 1—1983.

The Standard applies to the design and installation of emergency evacuation lighting in buildings and specifies requirements for the equipment used and installation practices adopted. Attention is drawn to the need for emergency evacuation lighting systems to be regularly maintained. In this regard it should be noted that AS 2293.2 specifies the periodic inspection and maintenance checks which should be carried out to ensure that emergency evacuation lighting installations will continue to function effectively.

A number of changes have been made in this edition of AS 2293.1; information on the more significant changes is provided in Appendix K. Many of the changes stem from consideration of matters raised by the New South Wales Department of Local Government and the Australian Uniform Building Regulations Co-ordinating Council, and are aimed at making the Standard more suited for calling up by cross-reference in building regulations.

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1987
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.

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

AMENDMENT No 1
to
AS 2293.1—1987
EMERGENCY EVACUATION LIGHTING IN BUILDINGS
PART 1— DESIGN AND INSTALLATION

CORRECTION

The 1987 edition of AS 2293.1 is amended as follows; the amendment should be inserted in the appropriate place.

SUMMARY: This amendment applies to Figure 2.1.

Published on 7 March 1988.

AMDT No 1 MAR. 1988

Page 12. Figure 2.1.

Delete existing Figure 2.1 and *substitute:*

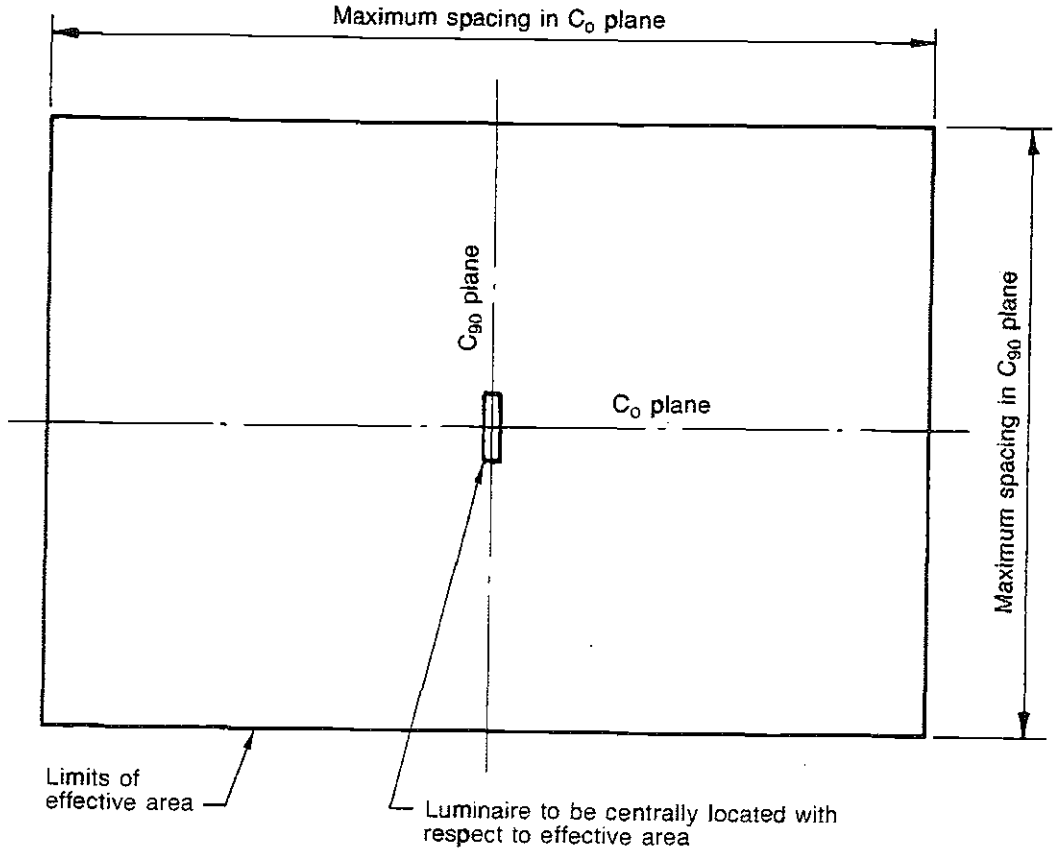


FIGURE 2.1. DETERMINATION OF THE EFFECTIVE AREA SERVED BY AN EMERGENCY LUMINAIRE

STANDARDS AUSTRALIA

Amendment No. 2
to
AS 2293.1—1987
Emergency evacuation lighting in buildings
Part 1: Design and installation

STANDARDS AUSTRALIA
20 OCT 1992
RECEIVED SYD. CENTRE

REVISED TEXT

The 1987 edition of AS 2293.1 which was amended in March 1988 is further amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 1.3.15, 1.3.16, 1.3.17, 5.3, Table 5.1, Figure B10, Appendices E and L.

Published on 12 October 1992.

AMDT No. 2 OCT. 1992

Page 8 New Clauses 1.3.15, 1.3.16 and 1.3.17

Insert the following new Clauses 1.3.15, 1.3.16 and 1.3.17 and *renumber* the existing Clauses 1.3.15 to 1.3.35 as Clauses 1.3.18 to 1.3.38 inclusive.

1.3.15 Fire compartment—the total space of a building or any part thereof separated from the remainder by walls or floors or both, each having a fire-resistance level of not less than that required by the relevant regulatory authority and all openings in the separating construction being protected as specified by that authority.

1.3.16 Fire-rated elements—elements of the building structure, e.g. structural members, which are required by the relevant regulatory authority to have a specified fire-resistance level.

1.3.17 Fire-resistance level (FRL)—the grading period, in minutes, determined in accordance with AS 1530.4 for—

(a) structural adequacy;

(b) integrity; and

(c) insulation;

and expressed in that order (e.g. 60/60/30).

NOTE: A dash in the specified FRL signifies that there is no requirement for the particular characteristic, e.g. 60/–/–.

Pages 24 and 25 Clause 5.3

AMDT No. 2 OCT. 1992

Delete the existing clause and *substitute* the following:

5.3 PROTECTION OF THE ELECTRICAL INSTALLATION AGAINST FIRE

5.3.1 Forms of protection Any element of the electrical distribution system supplying the emergency lighting shall, unless specifically exempted, be protected against exposure to fire in one of the following ways:

(a) The use of fire-protected wiring systems complying with the appropriate classification in AS 3013, as specified in Clauses 5.3.2 or 5.3.3.

(b) The use of any wiring system complying with AS 3000 which is protected from exposure to fire by the application of building structure elements to form a barrier having a fire-resistance level of not less than the duration of circuit integrity afforded by the relevant wiring classification specified in Clauses 5.3.2 or 5.3.3 by reference to AS 3013.

Sensing circuits need not be protected in accordance with this clause, but shall be arranged so that any failure resulting from fire will result in operation of the associated emergency lighting.

NOTES:

1 AS 3013 only covers requirements for forms of protection which are not dependent on the use of fire-rated elements of building construction for thermal protection.

2 A summary of the protection required for particular elements of the electrical distribution system is given in Table 5.1.

(*continued*)

ISBN 0 7262 7857 2

5.3.2 Protective measures for buildings required to be constructed of fire-rated elements

5.3.2.1 *Buildings provided with automatic fire sprinkler systems* For buildings which are required to be constructed of fire-rated elements and which are provided throughout with an approved automatic fire sprinkler system, the emergency lighting distribution system shall be protected against exposure to fire in accordance with the following requirements:

(a) Submains and associated link boxes and distribution boards shall be provided with Class WS4X protection in accordance with AS 3013.

(b) Except as specified in Item (c), final subcircuits need not be protected against exposure to fire where they are confined within a single fire compartment of the building.

(c) Final subcircuits which traverse more than one fire compartment of a building shall be provided with Class WS4X protection in accordance with AS 3013 from the origin of the subcircuit (i.e. the distribution board) to its emergence within the final fire compartment where the subcircuit is utilized, no further protection being necessary beyond that point.

NOTES:

1 Some spaces within a building may not be provided with automatic sprinklers, e.g. computer rooms and electrical substations. The above requirements may be considered as applying to the whole of such a building if the regulatory authority concerned deems the building to be protected throughout by an approved automatic fire sprinkler system.

2 Attention is drawn to AS 2118 which sets out requirements for automatic fire sprinkler systems.

5.3.2.2 *Buildings without automatic fire sprinkler systems* For buildings which are required to be constructed of fire-rated elements but are not provided throughout with an approved automatic fire sprinkler system, the emergency lighting distribution system shall be protected against exposure to fire in accordance with the following requirements:

(a) Submains and associated link boxes and distribution boards shall be provided with Class WS4X protection in accordance with AS 3013.

(b) Except as specified in Item (c), final subcircuits shall be provided with Class WS1X protection in accordance with AS 3013 from its origin (i.e. the distribution board) to each emergency luminaire and exit sign.

The connection to each emergency luminaire and exit sign shall be made via a fused terminal box as follows:

(i) The terminal box shall be of a type which provides Class WS1X protection in accordance with AS 3013.

(ii) The terminal box shall be fitted out and installed in accordance with the supplier's instructions, for compliance with Item (i).

(iii) All unearthed load circuit conductors shall be fused with Type 'gG' fuse-links complying with AS 2005.10.

(iv) The terminal box shall be located within 2 m of the emergency luminaire or exit sign in a position which is readily accessible for fuse replacement.

The conductors on the load side of the terminal box need not be protected against exposure to fire.

Terminal boxes which satisfy the requirements of Appendix E shall be deemed to comply with Items (i) to (iii) above.

(c) Final subcircuits which traverse more than one fire compartment of a building shall be provided with Class WS4X protection in accordance with AS 3013 from the origin of the subcircuit (i.e. the distribution board) to its emergence within the final fire compartment where the subcircuit is utilised. Protection within the final fire compartment shall be as specified in Item (b).

5.3.3 Protective measures for buildings not required to be constructed of fire-rated elements For buildings which are not required to be constructed of fire-rated elements, the emergency lighting distribution system shall be protected against exposure to fire in accordance with the following requirements:

(a) Submains and associated link boxes and distribution boards shall be provided with Class WS1X protection in accordance with AS 3013.

(b) Final subcircuits shall be protected in accordance with Clause 5.3.2.2(b).

5.3.4 Exemptions from protection against exposure to fire The protection against exposure to fire, specified for final subcircuits in Clauses 5.3.2 and 5.3.3, need not be provided in the following circumstances:

(a) For final subcircuits installed within fire-isolated passageways, fire-isolated ramps and fire-isolated stairways.

(b) For sections of final subcircuits which are within 2 m of the emergency luminaires or exit signs supplied by the subcircuit, if such sections do not involve the continuation of supply to other emergency luminaires or exit signs.

NOTE: See Figure B10 of Appendix B for an illustration of the exemption from protection against exposure to fire provided by Item (b).

5.3.5 Protection of distribution boards and link boxes Equipment used for the control or protection of emergency lighting circuits shall be installed in enclosures having a fire-resistance level of not less than that specified in Clause 3.2.2.

The emergency lighting distribution board may be installed in the same enclosure as an electrical distribution board provided that—

(a) the main enclosure has the required fire-resistance level;

(b) the distribution boards are contained within separate non-combustible cubicles;

(c) a physical separation of at least 150 mm is provided between the distribution boards; and

(d) the emergency lighting distribution board is not mounted above the electrical distribution board.

The above requirements shall not apply to equipment such as sensing relays which, if caused to fail as a result of fire originating from the normal lighting distribution system, will actuate the emergency lighting.

(*continued*)

5.3.6 Installation of wiring systems Elements of the emergency lighting distribution system which, in terms of Clauses 5.3.2 or 5.3.3, are required to be protected against exposure to fire shall be installed via a route which uses fire-resisting building structure elements and supports. The supports and fixings used to attach the wiring to the structure shall comply with either of the following requirements, as appropriate:

(a) The supports and fixings shall be of the type recommended by the wiring system supplier as having achieved the relevant classification to AS 3013.

(b) The supports and fixings shall be of a type which satisfies the test specified in Appendix B of AS 3013.

The cables used shall either be run without joints or, where joints are unavoidable because of the route length involved, they shall be made in a manner which will ensure that the specified protection against exposure to fire is maintained.

AMDT No. 2 OCT. 1992

Page 25 Table 5.1

Delete the existing table and *substitute* the following:

TABLE 5.1

PROTECTION OF EMERGENCY LIGHTING CIRCUITS AGAINST EXPOSURE TO FIRE—SUMMARY OF REQUIREMENTS

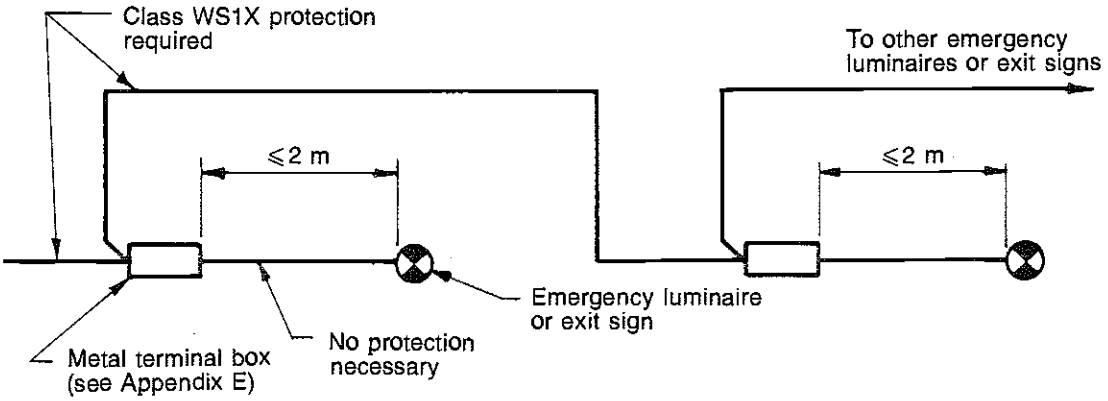
1	2	3	4
Circuit and associated equipment	**Required protection against exposure to fire (see Clause 5.3.1 and AS 3013)**		
	Buildings required to be constructed of fire-rated elements (see Clause 5.3.2)		**Buildings not required to be constructed of fire-rated elements (see Clause 5.3.3)**
	Buildings with automatic fire sprinkler systems (see Clause 5.3.2.1)	**Buildings without automatic fire sprinkler systems (see Clause 5.3.2.2)**	
Submains and associated link boxes and distribution boards	Class WS4X	Class WS4X	Class WS1X
Final subcircuits	(a) If confined within single fire compartment: no protection. (b) If extends to more than one fire compartment: Class WS4X protection from origin to final fire compartment of use, no protection thereafter.	(a) If confined within single fire compartment: Class WS1X* protection. (b) If extends to more than one fire compartment: Class WS4X protection from origin to final fire compartment of use, Class WS1X* protection thereafter.	Class WS1X*

* See Clause 5.3.4 for exemptions from the need for protection in specified circumstances.

AMDT No. 2 OCT. 1992

Page 35 Appendix B, Figure B10

Delete the existing figure and *substitute* the following:



NOTE: See Clause 5.3.4 for details of exemptions from the need for protection against exposure to fire.

FIGURE B10 ILLUSTRATION OF EXEMPTION FROM NEED FOR PROTECTION AGAINST EXPOSURE TO FIRE FOR SECTIONS OF FINAL SUBCIRCUITS

AMDT No. 2 OCT. 1992

Pages 41 to 46 Appendix E

Delete the existing appendix and *substitute* the revised appendix given in the following pages.

AMDT No. 2 OCT. 1992

Page 58 Appendix L

Insert the following additional referenced document:

AS
3013 Electrical installations—Wiring systems for specific applications

AMDT
No. 2
OCT.
1992

APPENDIX E

TERMINAL BOX FOR THE CONNECTION OF EMERGENCY LUMINAIRES AND EXIT SIGNS IN CENTRAL SYSTEMS

(Normative)

E1 SCOPE This Appendix specifies details of a terminal which may be used for the connection of emergency luminaires and exit signs in final subcircuits of central systems which require protection against exposure to fire.

Clause 5.3.2.2(b) requires that such terminal boxes provide Class WS1X protection in accordance with AS 3013. This Appendix sets out the materials, construction, connection and installation details for a terminal box which, on the basis of previous testing*, is deemed to provide the specified protection.

E2 MATERIALS AND CONSTRUCTION The terminal box shall be of either—

(a) heavy duty cast steel with a cast steel lid, the thickness of any part of the box being not less than 3.2 mm; or

(b) folded sheet steel having continuous welded edges or overlapped and spot welded flaps, and an overlapping 'shoe box' type lid, the thickness of any part of the box being not less than 1.2 mm.

E3 CONNECTION DETAILS Connections within the terminal box shall be made via fuses complying with the following:

(a) All unearthed load circuit conductors shall be fused with Type 'gG' fuse-links complying with AS 2005.10.

(b) Each fuse-link shall be housed in a ceramic fuse-carrier and base.

Cable entries to the terminal box shall be made by means of close-fitting metallic bushes or glands.

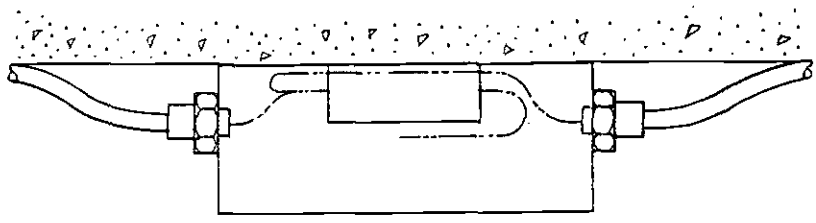
For mineral-insulated, metal-sheathed cables, the cable seals shall be located within the terminal box. The sealing compound used shall be of a type which remains non-conductive, even though it may fail as a moisture seal under high temperature conditions.

Conductor tails shall be insulated over their entire length with natural silicone rubber sleeving, having a hardness of 74 ± 5 (Durometer A) and a density of 1620 ± 2 kg/m^3.

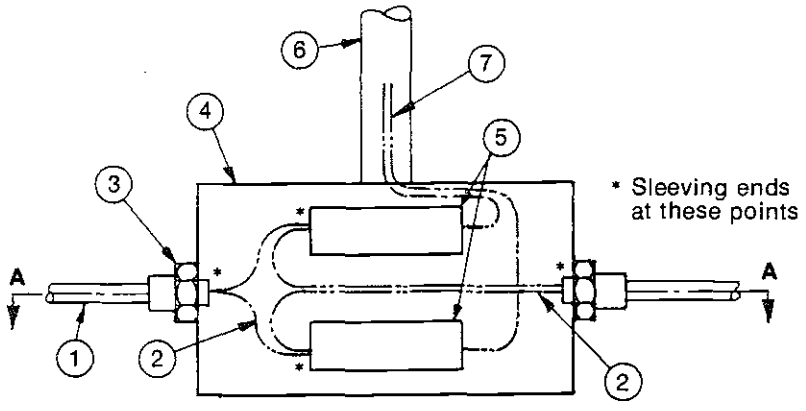
NOTE: Figures E1 and E2 illustrate typical arrangements of the terminal box for different wiring systems.

E4 INSTALLATION DETAILS The terminal box shall be installed in a manner consistent with the principles embodied in the examples illustrated in Figures E3 to E7, applicable to the luminaire arrangement and type of wiring system employed.

* A description of the tests is provided in *NBTC Technical Record 452*, The fire performance of wiring for emergency lighting systems. National Building Technology Centre, P.O. Box 30, Chatswood, N.S.W. 2067.



SECTION A-A



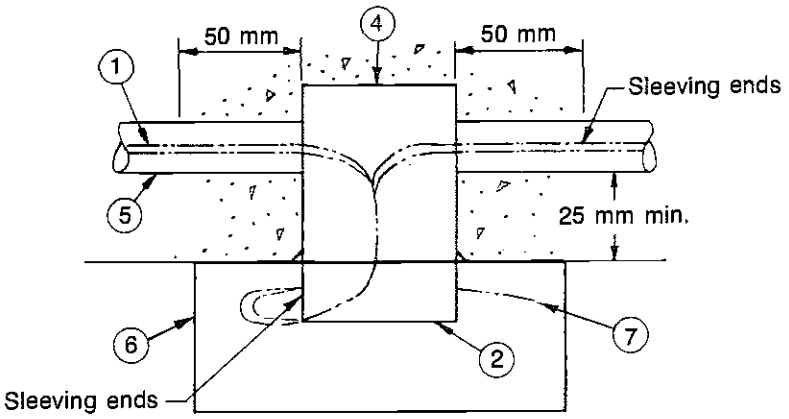
VIEW INTO BOX WITH COVER REMOVED

DO NOT SCALE

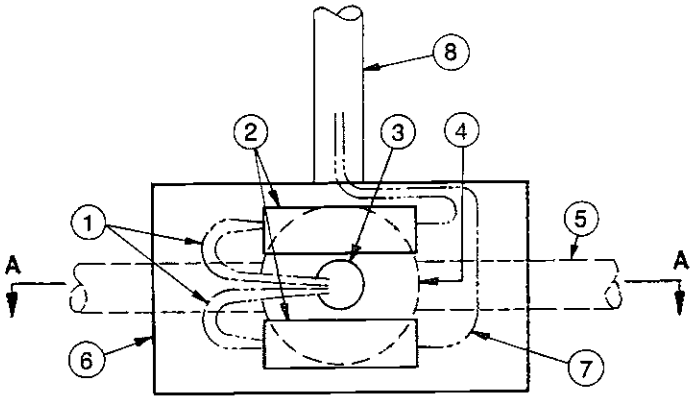
Item	Description
1	Surface installed cable
2	Conductor tails, insulated or sleeved with silicone rubber
3	Metallic cable gland or bush
4	Metal terminal box
5	Ceramic fuse base and carrier with type 'gG' fuse-link complying with AS 2005.10.
6	Surface conduit to luminaire†
7	Wiring to luminaire—any allowed by AS 3000†

† Not to exceed 2 m unless wiring is of a type which will provide Class WS1X protection in accordance with AS 3013.

FIGURE E1 TYPICAL ARRANGEMENT OF METAL TERMINAL BOX FOR USE WITH SURFACE INSTALLED CABLE AND SURFACE MOUNTED LUMINAIRE



SECTION A-A



VIEW INTO BOX WITH COVER REMOVED

DO NOT SCALE

Item	Description
1	0.6/1 kV PVC insulated building wires V75, sleeved with silicone rubber
2	Ceramic fuse base and carrier with type 'gG' fuse-link complying with AS 2005.10
3	Wire entry hole in base of metal terminal box
4	Embedded conduit junction box
5	Embedded conduit
6	Metal terminal box
7	Wiring to luminaire—any allowed by AS 3000*
8	Surface conduit to luminaire*

* Not to exceed 2 m unless wiring is of a type which will provide Class WS1X protection in accordance with AS 3013.

FIGURE E2 TYPICAL ARRANGEMENT OF METAL TERMINAL BOX FOR USE WITH EMBEDDED CONDUIT AND SURFACE MOUNTED LUMINAIRE

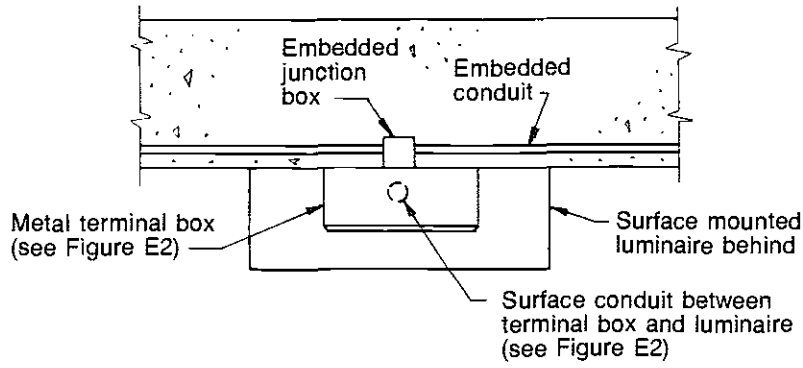


FIGURE E3 TYPICAL LAYOUT OF EMBEDDED CONDUIT, SURFACE MOUNTED TERMINAL BOX AND SURFACE MOUNTED LUMINAIRE

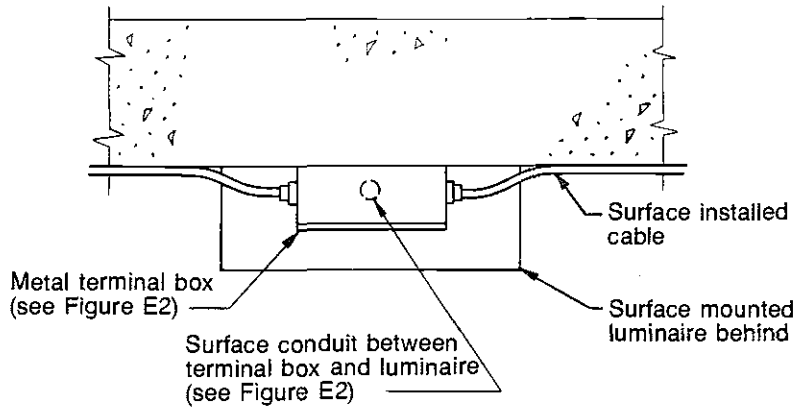


FIGURE E4 TYPICAL LAYOUT OF SURFACE INSTALLED CABLE, SURFACE MOUNTED TERMINAL BOX AND SURFACE MOUNTED LUMINAIRE

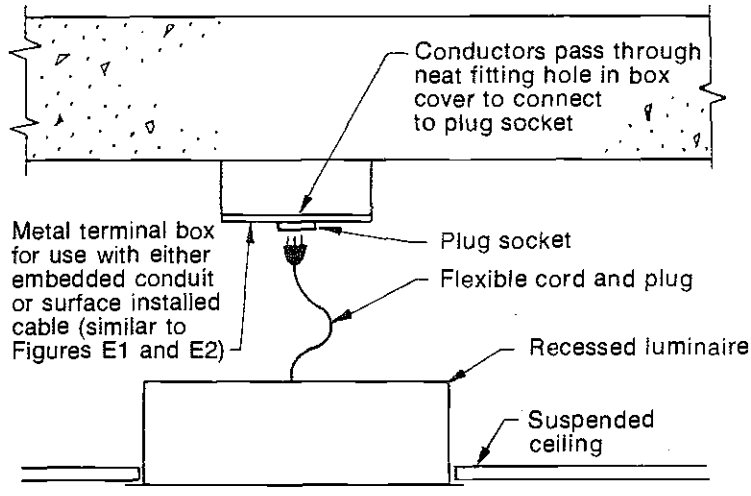


FIGURE E5 TYPICAL LAYOUT OF TERMINAL BOX AND RECESSED LUMINAIRE

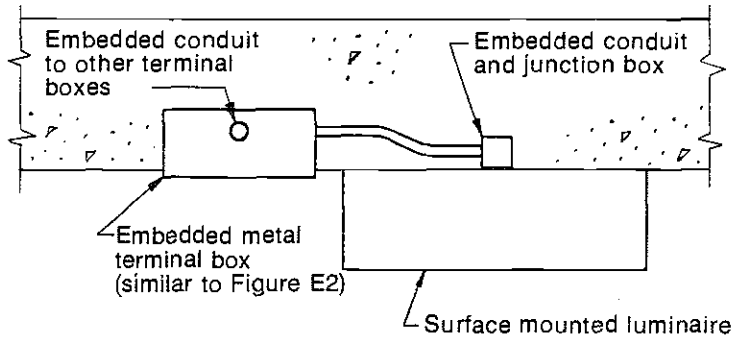


FIGURE E6 TYPICAL LAYOUT OF EMBEDDED TERMINAL BOX AND SURFACE MOUNTED LUMINAIRE

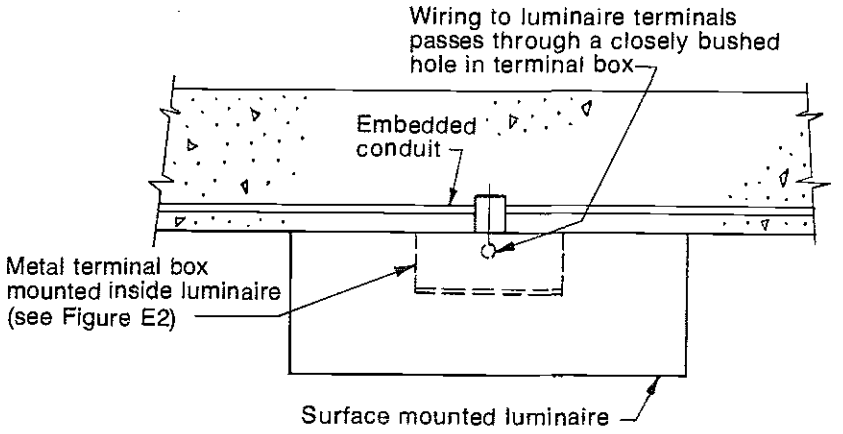


FIGURE E7 TYPICAL LAYOUT OF TERMINAL BOX MOUNTED INSIDE A SURFACE MOUNTED LUMINAIRE

CONTENTS

APPENDICES

FOREWORD

The term 'emergency lighting' is commonly used to refer to the following types of lighting systems, one or more of which may be provided in a building to guard against the possible loss of the normal lighting:

(a) *Standby lighting.* Standby lighting systems generally provide relatively high lighting levels such as will permit normal activities to continue.

(b) *Safety lighting.* Safety lighting systems are intended to ensure the safety of workers in proximity to hazardous equipment or processes.

(c) *Evacuation or escape lighting.* Evacuation or escape lighting systems are intended to provide visual conditions which will permit the safe evacuation of people from buildings.

This Standard is concerned only with evacuation or escape lighting.

For direct lighting systems, a scheme for classifying emergency luminaires according to their light output distribution has been evolved together with associated requirements governing the maximum spacings which may be used. This approach has been adopted in preference to stating requirements directly in terms of illuminance values for the following reasons:

(i) The very low illuminance values which are involved cannot be measured with any degree of accuracy by conventional measuring instruments.

(ii) To obviate the necessity for inspection personnel to have the training and skills required to take illuminance measurements.

This approach also has the advantage of simplifying the design of emergency lighting installations since it should be possible to more readily predict compliance at the design stage.

In the formulating of requirements for the spacing of emergency luminaires, cognizance was taken of investigations conducted in the United Kingdom* which led to the adoption in BS 5266, Part 1† of a recommended minimum illuminance of 0.2 lx along the escape route and throughout the specified operating period. Appraisals of emergency lighting installations which have been conducted in Australia generally confirm the adequacy of this recommendation. The spacings given in Tables 2.1 to 2.5 have therefore been computed on the basis of the provision of an illuminance at floor level of not less that 0.2 lx between adjacent luminaires, with reference to operation of the luminaires at a voltage equivalent to that which may apply at the end of the prescribed duration of operation.

For indirect lighting systems, requirements for the installation of emergency luminaires have been derived on an empirical basis with the object of providing visual conditions at least equivalent to those afforded by the abovementioned direct lighting.

Attention is drawn to the fact that the reflectance of the main interior surfaces (especially walls and other vertical surfaces) will significantly influence the visual conditions provided by an emergency lighting installation. It is therefore recommended that these surfaces be as light in tone as practicable.

It is recognized that the presence of smoke will have a detrimental effect on the visual conditions provided by the emergency lighting. The committee is of the view that there is no practical way of ensuring that the lighting system will continue to be effective under smoke conditions, and that dependence must be placed on other measures such as building construction and ventilation to keep escape paths as free as possible from smoke.

Attention is drawn to the availability of photoluminescent materials which absorb light energy on exposure to the normal lighting and which, following loss of the normal lighting, progressively releases this light energy in the form of a 'luminous glow' for a significant period. Such materials can provide a useful adjunct to emergency lighting systems, especially in providing directional information and in delineating the path of travel required for safe egress.

The emergency lighting required by this Standard may be provided by central systems‡ or single-point systems‡, or from a combination of the two. Both systems have particular advantages and disadvantages; consequently, no recommendation is made as to which should be employed. However, appropriate requirements are provided governing the equipment and installation methods for both types of system.

---

* SIMMONS, R.C. 'Illuminance, Diversity and Disability Glare in Emergency Lighting', Lighting Research and Technology, 7(2). 1975: pp.125-132.

† BS 5266, Code of Practice for the Emergency Lighting of Premises. Part 1—Premises Other than Cinemas and Certain Other Specified Premises Used for Entertainment.

‡ See definitions in Clauses 1.3.6 and 1.3.34.

For central systems, requirements for the protection of the emergency lighting distribution system against the effects of fire are specified in terms of the performance of the relevant circuit when subjected to the temperature conditions produced by application of the test prescribed in AS 1530.4*. However, Appendix E herein provides details of wiring methods which are considered acceptable on the basis of results of tests conducted at the National Building Technology Centre†.

The nature of an emergency lighting system is such that one can never predict when it may be called upon to function. Consequently, while it is important that the system be correctly installed and operate satisfactorily initially, it is equally important that regular inspection and maintenance procedures be instituted to ensure that the system will be in a state of readiness for operation at all times.

* AS 1530.4 Methods for Fire Tests on Building Materials, Components and Structures Part 4—Fire-resistance Tests on Elements of Construction.

† Technical Record 452, 'The Fire Performance of Wiring for Emergency Lighting Systems'.

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
EMERGENCY EVACUATION LIGHTING IN BUILDINGS

PART 1—DESIGN AND INSTALLATION

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard specifies requirements for the equipment used and practices adopted in the provision of electric emergency evacuation lighting in buildings. The object of the Standard is to provide visual conditions which will alleviate panic and permit safe evacuation of the building occupants should this be necessary in the event of failure of the normal lighting.

The Standard does not specify the types of buildings nor the particular locations within buildings which should be provided with emergency evacuation lighting. This will normally be a matter for determination in accordance with the relevant building regulations.

NOTES:

1. As it is never known when the emergency evacuation lighting may be called upon, it is essential that the system be regularly maintained. AS 2293.2 sets out inspection and maintenance procedures which are intended to ensure that the installation will continue to comply with this Standard.
2. Requirements for the provision of emergency lighting in lift cars are given in AS 1735.
3. Information which may be required for the design of an emergency evacuation lighting installation or for the purchase of equipment is listed in Appendix C.
4. AS 3009 specifies requirements for the emergency standby lighting necessary in hospitals for continued patient care and requires that emergency evacuation lighting be provided in accordance with the requirements of this Standard and relevant building regulations.

1.2 REFERENCED DOCUMENTS. A list with titles of the documents referred to in this Standard is given in Appendix L.

1.3 DEFINITIONS. For the purpose of this Standard, the definitions below apply.

1.3.1 Ambient temperature—the dry-bulb temperature in still air, averaged over a period of 8 h.

1.3.2 Approved—approved by the Inspecting Authority.

1.3.3 Battery—a unit consisting of one or more cells connected in a series, parallel or series-parallel arrangement to supply the voltage and current requirements of the connected load.

1.3.4 Boost charge—a system of charging adopted to recover the battery in accordance with the duty requirements of the system, the voltage of the system under these circumstances being outside the normal permissible limits of the system.

1.3.5 Cell—the basic single unit consisting of case, electrolyte, positive and negative plates, and connecting terminals, used for storing electric energy by electrolytic processes.

1.3.6 Central (emergency lighting) system—a system of emergency lighting in which a number of emergency luminaires are supplied from a common power source.

NOTE: Within a building there may be several power sources each of which supply the emergency luminaires in a particular section of the building.

1.3.7 Combined emergency luminaire—a maintained or non-maintained emergency luminaire which also incorporates an additional lamp(s) energized from the normal lighting supply.

NOTE: The term 'sustained emergency luminaire' is sometimes used to describe one form of combined emergency luminaire in which the emergency lamp(s) operate in a non-maintained mode (see Clause 1.3.29).

1.3.8 Designated area—the area(s) within a building which is (are) required to be provided with emergency lighting.

1.3.9 Direct lighting—a system of lighting in which most of the light emitted by the luminaires is directed towards the surfaces to be lit. The term usually refers to light emitted in a downward direction.

NOTE: A surface is deemed to be directly lit if there is an unobstructed line from any point on the surface to the light emitting or reflecting parts of an adjacent emergency luminaire.

1.3.10 Electrolyte density—the mass per unit volume of the electrolyte.

NOTE: 'Electrolyte density' is used in place of the former term 'specific gravity'.

1.3.11 Emergency evacuation lighting—lighting which is provided to ensure that the means of escape can be safely and effectively used. Emergency evacuation lighting systems comprise both emergency luminaires and exit signs.

NOTES:

1. Throughout this Standard 'emergency evacuation lighting' is referred to as 'emergency lighting'.
2. The emergency lighting may be derived from central systems or single point systems (see Clauses 1.3.6 and 1.3.34), or from a combination of both.

1.3.12 Emergency luminaire—a luminaire which is designed for use in an emergency lighting system.

NOTES:

1. Emergency luminaires are classified in accordance with Appendix A. A bare lamp unit may serve as an emergency luminaire provided that it has been appropriately classified. An internally illuminated exit sign may also serve as an emergency luminaire provided that it has been classified for this purpose in accordance with Appendix A.
2. An emergency luminaire may be combined with a normal lighting luminaire or may be a completely separate unit.

1.3.13 Exit—an exit which is required by the relevant Regulatory Authority (see Appendix F).

COPYRIGHT