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3011 Electrical installations—Secondary batteries installed in buildings
3011.1—1992 Vented cells
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Australian Standard®

Electrical installations—Secondary batteries installed in buildings

Part 1: Vented cells

STANDARDS AUSTRALIA

CC

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The following interests are represented on Committee EL/5:

Australian Automobile Association

Australian Automotive Aftermarket Association

Australian Electrical and Electronic Manufacturers Association

Australian Federation of Consumer Organizations

Australian Lead Development Association

Confederation of Australian Industry

Department of Administrative Services—Australian Construction Services

Department of Defence

Electricity Supply Association of Australia

Federal Chamber of Automotive Industries

Institution of Engineers Australia

Railways of Australia

Telecom Australia

Australian Standard®

Electrical installations—Secondary batteries installed in buildings

Part 1: Vented cells

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PREFACE

This Standard was prepared by the Standards Australia Committee on Secondary Batteries to supersede AS 3011—1987. It is to be read in conjunction with AS 2676.1, *Guide to the installation, maintenance, testing and replacement of secondary batteries in or on buildings,* Part 1: *Vented cells.*

This Standard is intended as a statement of minimum requirements and is intended to be suitable for reference in Government regulations.

This Standard covers the installation of vented cells only. The Standards Australia Committee on Secondary Batteries proposes—

(a) a Part 2 of AS 3011 to cover sealed cells; and

(b) a Part 2 of AS 2676 covering sealed cells.

Over the last few years both the ampere-hour capacity and voltage of battery installations have increased to the point where some voltages now border on the medium and high-voltage range. Even in extra-low voltage installations the low internal resistances of batteries under short-circuit conditions can cause severe injuries to staff working on a battery or cell, or cause fire and explosion.

Recent tests have shown that batteries of 30 V and above may present problems in breaking fault currents and that additional precautions need to be taken to reduce the possibility of accidental short-circuits.

In preparing this Standard the Committee considered the requirements of both vented lead-acid cells and vented alkaline cells.

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SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard sets out essential requirements for the installation of vented secondary batteries, with a nominal voltage exceeding 24 V and a capacity exceeding 10 A.h at the 1-h rate, permanently installed in or on buildings, structures or premises for ensuring safety from fire and electric shock.

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

AS
1136 Low voltage switchgear and controlgear assemblies
1136.1 Part 1: General requirements

1775 Low voltage switchgear and controlgear—Air-break switches, isolators and fuse combination units (up to and including 1000 V a.c. and 1200 V d.c.)

2676 Guide to the installation, maintenance, testing and replacement of secondary batteries in buildings
2676.1 Part 1: Vented cells

3000 SAA Wiring Rules

1/21 (IEV 486)(Central Office)1246/289 Draft—Chapter 486: Storage batteries

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

1.3.1 Authorized person—the person in charge of the premises, or other person appointed or selected by the person in charge of the premises, to perform certain duties associated with the battery installation on the premises.

NOTE: In some States work on low and medium voltage equipment may only be undertaken by licensed personnel.

1.3.2 Battery enclosure—an enclosure containing batteries that are suitable for use in an area other than a battery room or an area restricted to authorized personnel.

1.3.3 Battery room—a room specifically intended for the installation of batteries that normally have no other protective enclosure.

1.3.4 Charge (of a battery)—an operation during which a battery receives, from an external circuit, electrical energy which is converted into chemical energy.

1.3.5 Nominal voltage—a suitable approximate value of voltage used to identify a type of battery.

***1.3.6 Secondary cell or battery**—an electrochemical system capable of storing under chemical form the electrical energy received and which can give it back by reconversion.

***1.3.7 Secondary cell**—an assembly of electrodes and electrolytes which constitutes the basic unit of a battery.

***1.3.8 Secondary battery**—two or more cells electrically connected and used as a source of energy.

* As defined in 1/21 (IEV 486)(Central Office)1246/289.