3011 Electrical installations—Secondary batteries installed in buildings
Part 1—1990 Vented cells
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Specifies requirements for the installation of vented secondary batteries permanently installed in buildings.

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ELECTRICAL INSTALLATIONS—
SECONDARY BATTERIES INSTALLED IN BUILDINGS

1990

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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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 Limited

Australian Federation of Consumer Organizations

Australian Lead Development Association

Confederation of Australian Industry

Department of Defence

Department of Housing and Construction

Electricity Supply Association of Australia

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AUSTRALIAN STANDARD

ELECTRICAL INSTALLATIONS—
SECONDARY BATTERIES INSTALLED IN BUILDINGS

AS 3011—1987

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PREFACE

This standard was prepared by the Association's Committee on Secondary Batteries. It forms one of the standards in the AS 3000 series and is to be read in conjunction with AS 2676, Installation and Maintenance of Batteries in Buildings.

The standard contains information that is also in AS 2676 but in the near future it is planned to revise AS 2676 and present it as a guide to the installation of batteries in or on buildings, structures or premises.

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 all types of secondary batteries, i.e. lead acid (sealed and vented), and alkaline types.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
ELECTRICAL INSTALLATIONS—SECONDARY BATTERIES INSTALLED IN BUILDINGS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard sets out essential requirements for the installation of 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 Switchgear and Controlgear Assemblies for Voltages up to 1000 V a.c.

AS 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.)

AS 2676 Installation and Maintenance of Batteries in Buildings

AS 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 Battery enclosure—enclosure containing batteries in other than a battery room.

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

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

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

***1.3.5 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.

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

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

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