

Australian/New Zealand Standard™

**Electrical installations – Patient areas  
of hospitals, medical and dental  
practices and dialyzing locations**

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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee HT/21, Wiring of Medical Treatment Areas in Hospitals to supersede AS/NZS 3003:1999. It was approved by the Council of Standards Australia on 30 May 2003 and on behalf of the Council of Standards New Zealand on 15 May 2003. It was published on 30 June 2003.

It specifies special requirements for electrical installations in PATIENT AREAS of hospitals, medical and dental practices and dialyzing locations. These requirements are additional to those specified in AS/NZS 3000 and the New Zealand Electricity Regulations.

Advice on whether particular PATIENT AREAS should be wired as BODY-PROTECTED OR CARDIAC-PROTECTED ELECTRICAL AREAS is set out in AS/NZS 2500, *Guide to the safe use of electricity in patient care*. The governing body or proprietor of the health care facility should refer to the safe practice code in AS/NZS 2500 for advice on how these decisions should be based on the type of procedures undertaken in each area and the level of protection afforded in the MEDICAL ELECTRICAL EQUIPMENT available for these procedures.

This Standard is intended to apply only to installations (or alterations or additions thereto) made or carried out after the date on which the Standard is published. However, it is strongly recommended that hospital management carefully evaluates the procedures undertaken within existing installations and take steps to implement the appropriate electrical safety requirements specified herein for areas that are used for CARDIAC-TYPE PROCEDURES or for procedures involving the regular use of MEDICAL ELECTRICAL EQUIPMENT.

While this Standard is intended to apply to new installations or extensions, some guidance is given concerning conversion of older installations.

Major changes in the 2003 edition include the following:

- All PATIENT AREAS are required to be BODY-PROTECTED OR CARDIAC-PROTECTED ELECTRICAL AREAS (refer 2.1);
- Colour coding requirements are included for normal 10, 15 and 20 A socket-outlets (refer 2.6.3.2);
- Minimum lettering sizes are specified for some marking requirements (refer 2.10.1);
- This edition emphasizes that decisions about which PATIENT AREAS should be wired as CARDIAC-PROTECTED ELECTRICAL AREAS must be made by the governing body or the proprietor of the institution and based on clinical advice (refer 1.1);
- “0.01  $\Omega$  EP earthing systems” as specified in the 1974 and 1985 editions, and as one of the options in the 1999 edition, are no longer specified for new CARDIAC-PROTECTED ELECTRICAL AREAS. However, alterations to existing CARDIAC-PROTECTED ELECTRICAL AREAS with “0.01  $\Omega$  EP earthing systems” must be made using the same type of EP earthing system (refer 4.4.2.1 and Appendix I).

The layout of this Standard has been changed from the 1999 edition as follows:

- Requirements that are common to BODY-PROTECTED and CARDIAC-PROTECTED ELECTRICAL AREAS are set out in Section 2 – General requirements for BODY-PROTECTED and CARDIAC-PROTECTED ELECTRICAL AREAS.
- Requirements that only relate to BODY-PROTECTED ELECTRICAL AREAS are set out in Section 3 – Additional requirements for BODY-PROTECTED ELECTRICAL AREAS.
- Requirements that only relate to CARDIAC-PROTECTED ELECTRICAL AREAS are set out in Section 4 – Additional requirements for CARDIAC-PROTECTED ELECTRICAL AREAS.

The terms 'normative' and 'informative' are used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of the standard whereas an 'informative' appendix is only for information and guidance.

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## NOTES

## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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**1 SCOPE AND GENERAL****1.1 Scope**

This Standard sets out requirements for electrical installations in PATIENT AREAS of hospitals, medical and dental practices, and dialyzing locations.

Areas other than PATIENT AREAS are not covered by this Standard, but are covered by the relevant requirements of AS/NZS 3000.

## NOTES –

- (1) Attention is drawn to AS/NZS 2500, which outlines the procedure for determining where CARDIAC-PROTECTED ELECTRICAL AREAS are required. These decisions are made by the governing body or proprietor of the health care facility, based on the classification of the medical procedures undertaken in each area and the protection against electric shock provided in the MEDICAL ELECTRICAL EQUIPMENT available for these procedures.
- (2) A rationale for the requirements of this Standard is given in Appendix A.
- (3) Requirements for mobile trolleys supporting electrical equipment are given in AS/NZS 3200.1.1 and AS/NZS 4510.
- (4) Requirements for emergency lighting are given in AS/NZS 2293.1.
- (5) Requirements for emergency power systems in hospitals are given in AS/NZS 3009.

**1.2 Application**

Electrical installations in PATIENT AREAS shall be carried out in accordance with AS/NZS 3000 and additionally with the Electricity Regulations in New Zealand, as varied by this Standard.

This Standard applies to installations (or alterations or additions thereto) carried out after the date of its publication.

NOTE – Although AS/NZS 3003:1999 provided for various types of EQUIPOTENTIAL earthing systems in CARDIAC-PROTECTED ELECTRICAL AREAS, this edition only specifies one arrangement for new installations (refer 4.4.2). This arrangement is consistent with the requirements for “0.1  $\Omega$  EP earthing systems” in the 1999 edition. However for alterations to existing areas, the requirements in this Standard depend on what type of EQUIPOTENTIAL earthing system was used in the original installation – refer 4.4.2.1.