



NEGARA BRUNEI DARUSSALAM

**BRUNEI DARUSSALAM STANDARD
PIAWAI BRUNEI DARUSSALAM**

**PBD IEC 60364-4-42: 2010
IEC 60364-4-42
Edition 2.0 2001-08**

**ELECTRICAL INSTALLATIONS OF BUILDINGS -
PART 4-42:
PROTECTION FOR SAFETY -
PROTECTION AGAINST THERMAL EFFECTS**

**ENERGY DIVISION, PRIME MINISTER'S OFFICE
IN COLLABORATION WITH MINISTRY OF DEVELOPMENT
NEGARA BRUNEI DARUSSALAM**

FOREWORD

This Brunei Darussalam Electrical Standard was prepared by the Technical Committee on Electrical Standards (TECO), Energy Division at Prime Minister's Office in collaboration with the Authority for Building and Construction Industry (ABCi), Ministry of Development, Brunei Darussalam with the objective of developing the National Electrical Standards for electrical products, systems, equipments and facilities for the local industry and consumers with reference to international standards, guidelines and procedures. In developing the national electrical standards, the aim is to promote quality, technical integrity, health, safety and environmental standards for the local industries and consumers.

This Brunei Darussalam Electrical Standard is an adoption of the International Electro Technical Commission IEC 60364-4-42: 2001 (Edition 2) standard and implements it as the Brunei Darussalam National Standard.

Attention is drawn to the fact that this Brunei Darussalam Electrical Standard does not confer any immunity from legal obligations in any contract for compliance to the Standard.

The National Electrical Standards are subject to periodical review according to the current needs of the local industries and consumers to keep abreast of progress in the industries and consumers concerned. Suggestions of amendments will be recorded and in due course brought to the notice of the committees concerned.

COMMITTEE MEMBERS

The Technical Committee on Electrical Standards (TECO) was tasked by the Energy Division at the Prime Minister's Office in collaboration with the Authority for Building and Construction Industry (ABCI), Ministry of Development, Brunei Darussalam for the preparation of this Brunei Darussalam Electrical Standard. The members of the Technical Committee are as follows:

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| 1. Awg Haji Abd Shawal Yaman
(Chairman) | Department of Electrical Services, PMO |
| 2. Awg Liaw Wai Khiong
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Institution of Engineering and Technology,
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| 3. Pg Shahrudin Pg Haji Yusoff
(Secretary) | ABCI, Ministry of Development |
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(Assistant Secretary 1) | Berakas Power Management Company,
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| 5. Awg Simon K A Leong
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| 6. Awg Haji Md Azrul Azrin Hj Md Zain | Department of Electrical Services, PMO |
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| 8. Awg Khairul Ezam Hj Mohd Zain | ABCI, Ministry of Development |
| 9. Awg Dennis Wong Tet Yin | Department of Mechanical & Electrical Services, PWD |
| 10. Awg Nohi Irwan Surkarki Haji Pawi | Department of Fire & Rescue Services |
| 11. Awg Haji Morsidi Haji Kassim | Institut Teknologi Brunei |
| 12. Awg Haji Ismit Haji Mohamad | Institut Teknologi Brunei |
| 13. Awg Matyassin Haji Masri | Maktab Kejuruteraan Jefri Bolkliah |
| 14. Awg Sylvester Kong | Brunei Shell Petroleum Co. Sdn Bhd |
| 15. Dyg Seri Malati OKIP Hj Zolkeflee | Brunei Shell Petroleum Co. Sdn Bhd |
| 16. Awang Aristoteles Momin | Brunei LNG Sdn Bhd |
| 17. Awg Rick Liaw | Hamzah Hassan Consultant |

SUB-COMMITTEE NO. 5 MEMBERS

The Sub-Committee No. 5 (SC5) is the working groups for the Electrical Wiring Code of Practice who assisted in the preparation for the adoption of the Brunei Darussalam Electrical Standard. The members of the Sub-Committee No. 5 are :

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| 1. Awg William Voon
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| 2. Awg Liaw Wai Khiong
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| 12. Awg Tony Ng | PKS Sdn Bhd |
| 13. Awg N. Sivakumar | LKH (B) Sdn Bhd |
| 14. Awg Tan Tau Minn | SEC Mashibah Sdn Bhd |

INTERNATIONAL
STANDARD

IEC
60364-4-42

Second edition
2001-08

Electrical installations of buildings –

**Part 4-42:
Protection for safety –
Protection against thermal effects**



Reference number
CEI/IEC 60364-4-42:2001

PBD IEC 60364-4-42: 2010 (Published by IEC in 2001)
This IEC International Standard has been adopted by CPRU, Ministry of Development,
Negara Brunei Darussalam as a national standard under the IEC Affiliate Country Programme

CONTENTS

FOREWORD	3
420.1 Scope	4
420.2 Normative references	4
421 Protection against fire	5
422 Measures for protection against fire	6
422.1 General	6
422.2 Conditions of evacuation in an emergency	6
422.3 Nature of processed or stored materials	7
422.4 Combustible constructional materials	8
422.5 Fire propagating structures	8
423 Protection against burns.....	9
424 Protection against overheating	9
424.1 Forced air heating systems	9
424.2 Appliances producing hot water or steam	9
Annex A (Informative) IEC 60364 – Parts 1 to 6: Restructuring	10
Table 42A – Temperature limits in normal service for accessible parts of equipment within arm's reach	9
Table A.1 – Relationship between restructured and original parts	11
Table A.2 – Relationship between new and old clause numbering.....	12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSTALLATIONS OF BUILDINGS –

Part 4-42: Protection for safety –
Protection against thermal effects

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60364-4-42 has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

The IEC 60364 series (parts 1 to 6), is currently being restructured, without any technical changes, into a more simple form (see annex A).

According to a unanimous decision by the Committee of Action (CA/1720/RV (2000-03-21)), the restructured parts of IEC 60364 have not been submitted to National Committees for approval.

The text of this second edition of IEC 60364-4-42 is compiled from and replaces

- part 4-42, first edition (1980),
- part 4-482, first edition (1982).

This publication has been drafted, as close as possible, in accordance with the ISO/IEC Directives, Part 3.

Annex A is for information only.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

ELECTRICAL INSTALLATIONS OF BUILDINGS –**Part 4-42: Protection for safety –
Protection against thermal effects****420.1 (421)¹ Scope**

Persons, fixed equipment, and fixed materials adjacent to electrical equipment shall be protected against harmful effects of heat developed by electrical equipment, or thermal radiation, particularly the following effects:

- combustion or degradation of materials;
- risk of burns;
- impairment of the safe function of installed equipment.

NOTE Protection against overcurrent is dealt with in IEC 60364-4-43.

420.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60364. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60364 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60079-14:1996, *Electrical apparatus for explosive gas atmospheres – Part 14: Electrical installations in hazardous areas (other than mines)*

IEC 60332-1:1993, *Tests on electric cables under fire conditions – Part 1: Tests on a single vertical insulated wire or cable*

IEC 60332-3-10:2000, *Tests on electric cables under fire conditions – Part 3-10: Test for vertical flame spread of vertically-mounted bunched wires or cables – Apparatus*

IEC 60332-3-21:2000, *Tests on electric cables under fire conditions – Part 3-21: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A F/R*

IEC 60332-3-22:2000, *Tests on electric cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A*

IEC 60332-3-23:2000, *Tests on electric cables under fire conditions – Part 3-23: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category B*

IEC 60332-3-24:2000, *Tests on electric cables under fire conditions – Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category C*

¹ In this standard, references in brackets refer to the previous numbering system.