



MALAYSIAN STANDARD

MS 1597-2-21:2019

**Household and similar electrical appliances -
Safety - Part 2-21: Particular requirements for
storage water heater
(Fourth revision)
(IEC 60335-2-21:2012, MOD)**

ICS: 91.140.65; 13.120

Descriptors: household, electrical, heating appliances, storage water heater

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Committee representation

The Industry Standards Committee on Electrical and Electronics Equipments and Accessories (ISC S) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Atomic Energy Licensing Board
Department of Standards Malaysia
Federation of Malaysian Manufacturers
Jabatan Kerja Raya Malaysia
Malaysian Association of Standards Users
Malaysian Cable Manufacturers Association
Malaysian Electrical Appliances and Distributors Association
Malaysian Green Technology Corporation
Ministry of Domestic Trade, Co-operatives and Consumerism
Multimedia University
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
Suruhanjaya Komunikasi dan Multimedia Malaysia
Suruhanjaya Tenaga
Tenaga Nasional Berhad (Distribution Division)
The Electrical and Electronics Association of Malaysia
Universiti Teknologi Malaysia
Universiti Tenaga Nasional

The Technical Committee on Safety of Household and Similar Electrical Appliances which supervised the adoption of the IEC Standard as Malaysian Standard consists of representatives from the following organisations:

Daikin Refrigeration Malaysia Sdn Bhd
Energy Commission
Independent
Jabatan Kerja Raya
Khind-Mistral Industries Sdn Bhd
Malaysian Electrical Appliances and Distributors Association
Panasonic Manufacturing Malaysia Berhad
Sharp Electronics (M) Sdn Bhd
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd (Product Certification and Inspection Department)
SIRIM QAS International Sdn Bhd (Testing Services Department)
The Electrical and Electronics Association of Malaysia
Thermo Hygro Consultants Sdn Bhd
Universiti Malaya
Universiti Teknologi Malaysia
Universiti Teknologi MARA

The Working Group on Electrical Household for Heating Appliances which recommended the adoption of the IEC Standard as Malaysian Standard consists of representatives from the following organisations:

Alpha Electric Co Sdn Bhd
Energy Commission
Jabatan Kerja Raya
Khind-Mistral Industries Sdn Bhd
Panasonic Manufacturing Malaysia Berhad
Persatuan Kompetensi Penjaga Jentera & Pendawai Elektrik
SEERS Marketing Sdn Bhd
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
SIRIM QAS International Sdn Bhd (Product Certification and Inspection Department)
Thermo Hygro Consultants Sdn Bhd
Universiti Malaya
Universiti Teknologi MARA

National foreword

The adoption of the IEC Standard as a Malaysian Standard was recommended by the Working Group on Electrical Household for Heating Appliances under the authority of the Industry Standards Committee on Electrical and Electronics Equipments and Accessories.

This Malaysian Standard is a modified adoption of IEC 60335-2-21:2012, *Household and similar electrical appliances - Safety - Part 2-21: Particular requirements for storage water heaters* published by the International Electrotechnical Commission (IEC) with the following modifications:

- a) in the source text, “this International Standard” should read “this Malaysian Standard”;
- b) the comma which is used as a decimal sign, (if any) to read as a point;
- c) the basis IEC 60335-2-21 is printed in English and French languages. However, only the English version is incorporated for the purpose of this Malaysian Standard;
- d) a vertical line in the margin shows where the technical content is modified by national committee;

e)	Clause/Subclause	Modifications
1	Scope	Addition of new statement “This standard is also applicable to solar water heater with the provision of electric heating element.”

Explanation: The additional has been made to comply solar water heater requirements.

3.109	Terms and definitions	Addition of new definition for “non-conductive isolation barrier.”
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Explanation: The additional has been made to define the non-conductive isolation barrier.

7.12.1	Marking and instructions	Addition of statement “to incorporate 10 mA RCD in the installation circuit.”
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Explanation: The addition has been made to comply with the *National Guidelines for Electrical Wiring*.

22.112 Construction Addition of new subclause on non-conductive isolation barriers requirements.

Explanation: To cross refer the requirements with the non-conductive isolation barrier stand-alone standard MS XXXX.

22.113 Construction

Addition of new sentence "All safety protective devices i.e. pressure-relief device, isolation barrier, etc., shall be prefitted in the appliance by the manufacturer

Explanation: The modification has been made to ensure it is being installed.

- f) reference to International Standards should be replaced by equivalent Malaysian Standards as follows:

Referenced International Standards

Corresponding Malaysian Standards

IEC 60335-1, *Household and similar electrical appliances - Safety - Part 1: General requirements*

MS IEC 60335-1, *Household and similar electrical appliances - Safety - Part 1: General requirements*

IEC 60335-2-15, *Household and similar electrical appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids*

MS IEC 60335-2-15, *Household and similar electrical appliances - safety - Part 2-15: Particular requirements for appliances for heating liquids*

IEC 60335-2-35, *Household and similar electrical appliances - Safety - Part 2-35: Particular requirements for instantaneous water heaters*

MS 1597-2-35, *Household and similar electrical appliances - Safety - Part 2-35: Particular requirements for instantaneous water heaters*

IEC 60335-2-75, *Household and similar electrical appliances - Safety - Part 2-75: Particular requirements for commercial dispensing appliances and vending machines*

MS 1597-2-75, *Household and similar electrical appliances - Safety - Part 2-75: Particular requirements for commercial dispensing appliances and vending machines*

This Malaysian Standard shall be used in conjunction with the latest edition of IEC 60335-1 and its amendments.

This Malaysian Standard cancels and replaces MS 1597-2-21:2015, *Household and similar electrical appliances - Safety - Part 2-21: Particular requirements for storage water heaters (Third revision)*.

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. MOD on the front cover indicates a modified standard i.e. a standard adapted from an International Standard with permitted technical deviations, which are clearly identified and explained. The changes in structure are permitted provided that the altered structure permits easy comparison of the content of the two standards. Modified standards also include the changes permitted under identical correspondence.