



# Guideline for Approval of Electrical Equipment

(ELECTRICITY REGULATIONS 1994)

## **SIXTH EDITION [2018]**

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**ELECTRICITY SUPPLY ACT 1990  
[ACT 447]**

**GUIDELINE FOR APPROVAL  
OF ELECTRICAL EQUIPMENT**

**GP/ST/No.14/2017**

IN exercise of the power conferred by Section 50c of the Electricity Supply Act 1990 [Act 447], the Commission issues the following guideline:

**Citation and Commencement**

1. This Guideline may be cited as the "Guideline for Approval of Electrical Equipment".
2. This Guideline shall come into operation on the date of registration.

**Interpretation**

3. In this Guideline, unless the context otherwise requires -

Act mean the Electricity Supply Act 1990 [Act 447], Electricity Supply (Amendment) Act 2015 [Act A1501] and its subsequent amendment, if any.

**Purpose of this Guideline**

4. This Guideline describe:-
  - lists of regulated electrical equipments;
  - procedures and conditions that shall be complied by the applicants in the submission of the application for :-
    - i. Certificate of Registration (CoR) to Manufacture / Import,
    - ii. Certificate of Registration as Conformity Assessment Body (CAB),



- iii. Certificate of Approval (CoA) to import, manufacture, display, sell or advertise regulated electrical equipment,
  - iv. Renewal of Certificate of Approval (CoA) to import, manufacture, display, sell or advertise regulated electrical equipment,
  - v. Certificate of Approval (CoA) for Exhibition purposes,
  - vi. Release Letter for CoA Exemption,
  - vii. Release Letter for Non-Regulated Item,
  - viii. Import Electrical Equipment for Personal Use;
- national deviation;
  - energy efficiency; and
  - labelling requirements.

### **Application of this Guideline**

5. This Guideline shall be applicable to all manufacturers, importers, exhibitors, sellers and advertisers of any regulated electrical equipment and registered laboratories and certification body in ensuring compliance to the Act and Regulations.

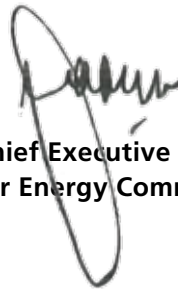
### **Notice by the Commission**

6. The Commission may issue written notices from time to time in relation to this Guideline.

### **Amendment and Variation**

7. The Commission may at any time amend, modify, vary or revoke this Guideline.

Dated: **21 May 2018**



**Chief Executive Officer  
for Energy Commission**

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# PREFACE

This Information Booklet serves as a guide on the procedure of applying for the Certificate of Approval (CoA) to manufacture, import, display, sell or advertise any electrical equipment prescribed under sub regulation 97(1) of the Electricity Regulations 1994 and other related regulatory requirements therein. It can be downloaded from the website [www.st.gov.my](http://www.st.gov.my).

The Energy Commission (the Commission) expressly disclaim all liability to any person in respect of any statement in or omission from this Information Booklet to the extent permitted by the law and nothing contained in this Information Booklet should be taken as constituting any amendment to the Electricity Supply Act 1990 [Act 447] or the Electricity Regulations 1994. In the event of any conflict, Act 447 or the Regulations shall at all times take precedence. This Information Booklet should not, therefore be regarded as or substitute for familiarising yourself with Act 447 or the Regulations, or where necessary, obtaining specific advice for your individual position.

The Commission reserves the right to amend and introduce new requirements to the aforementioned procedures of obtaining a CoA.

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# CHAPTER I





# INTRODUCTION

## Why CoA is required?

The objective for the issuance of CoA under the Electricity Regulations 1994 is to ensure that all activities to manufacture, import, display, sale or advertisement of:

- (a) any domestic equipment;
- (b) any low voltage equipment which is usually sold directly to the general public; or
- (c) any low voltage equipment which does not require special skills in its operation,

meets the specified safety and efficient use of electricity requirements.

Consumers' interests in the use of electrical equipment shall be protected through the determination of the equipment being :-

- (a) compatible to Malaysian electricity supply system;
- (b) complying to standards;
- (c) tested by accredited laboratory;
- (d) labelled with SIRIM-ST's label.

Therefore, by complying with the specified minimum requirements risk of accidents such as fire, electric shock, explosion, radiation and other hazards which could result in injuries or deaths to humans and or damages to properties can be minimized or avoided.



## CHAPTER 2



# WHO SHOULD BE CONCERNED WITH THIS BOOKLET

## Consumers

In line with the safety requirements as well as to safeguard consumer's interests and to ensure the efficient use of electricity, consumers should only purchase:

- (a) any domestic equipment;
- (b) any low voltage equipment which is usually sold directly to the general public; or
- (c) any low voltage equipment which does not require special skills in its operation,

which have been approved by the Commission and affixed with a predetermined label.

## Manufacturers, Importers, Exhibitors, Sellers and Advertisers

Manufacturers, importers, exhibitors, sellers and advertisers of any electrical equipment prescribed under sub regulation 97(1), of the Electricity Regulations 1994 must ensure that their obligations under the said Regulations are fulfilled.

This Information Booklet is to assist manufacturers, importers, exhibitors, sellers and advertisers in understanding and fulfilling the requirements and procedures for obtaining the CoA and other related regulatory requirements determined by the Energy Commission.



C H A P T E R 3

# KEY REGULATIONS TO NOTE

Reference to Electricity Regulations 1994;

## Requirement to apply for CoA

Amendment of Regulation 97 Subject to regulations 97C, 97D, 97E and 101A, no person shall manufacture, import, display, sell or advertise -

- (a) any domestic equipment;
- (b) any low voltage equipment which is usually sold directly to the general public; or
- (c) any low voltage equipment which does not require special skills in its operation, unless the equipment is approved by the Commission.

## Recognition of foreign conformity assessment body

Regulation 97(A) (1) For the purposes of certifying any equipment under regulation 97, the Commission shall give a recognition to a foreign conformity assessment body, in a manner that may be determined by the Commission. Provided that, the foreign conformity assessment body shall be recognised, registered or licensed by the relevant authority in the country in which the foreign conformity assessment body carries on its business.

(2) The Commission shall cease to recognise the foreign conformity assessment body under sub regulation (1), if the recognition, registration or licence granted to the foreign conformity assessment body is revoked by the relevant authority.

(3) All test reports, certificates, records or technical files produced by a foreign conformity assessment body in accordance with these Regulations shall be recognised as valid and subsisting for the purposes of this Part, without prejudice to any further testing or assessment to be done to them as the Commission deems necessary.



## **Registration of local conformity assessment body**

Regulation 97 (B) (1) For the purposes of certifying any equipment under regulation 97, a local conformity assessment body shall apply to be registered with the Commission, in a manner that may be determined by the Commission.

Provided that, the local conformity assessment body has been accredited by the accreditation authority.

- (2) A local conformity assessment body who is register as conformity assessment body as set out in Form U1 of the First Schedule (as in **Appendix I**).
- (3) A Certificate of Registration issued under sub regulation (2) shall be valid for not less than one year and not exceeding three years from the date of issue or renewal of such certificate.

## **Registration of manufacturer and importer**

Regulation 97 (C) (1) Any person who manufactures or imports any equipment under regulation 97 shall apply to be registered with the Commission, in a manner that may be determined by the Commission.

- (2) A manufacturer or importer who is registered under sub regulation (1) shall be issued with a Certificate of Registration to manufacture or import as set out in Form V1 of the First Schedule (as in **Appendix F**).
- (3) A Certificate of Registration issued under sub regulation (2) shall be valid for not less than one year and not exceeding five years from the date of issue or renewal of such certificate.

**Submission of test report or Certificate of Conformity by manufacturer**

Regulation 97 (D) (1) Any manufacturer issued with a Certificate of Registration under regulation 97C shall submit to the Commission-

- a. a test report as to the equipment's conformity with the safety standards as recognised by the Commission; or
  - b. a Certificate of Conformity issued by a local conformity assessment body.
- (2) A test report under sub regulation (1) shall be issued by a testing laboratory accredited by the accreditation authority and the test report shall be valid for not less than one year and not exceeding five years from the date of the report.
- (3) A Certificate of Conformity under sub regulation (1) shall be valid for not less than one year and not exceeding three years from the date of the certificate
- (4) Upon expiry of a test report or Certificate of Conformity, as the case may be, the manufacturer shall submit a new test report or Certificate of Conformity to the Commission in accordance with this regulation
- (5) A manufacturer who submits a test report or Certificate of Conformity under this regulation shall ensure that such test report or Certificate of Conformity has a validity period of not less than one year before the expiry date.

**Submission of test report or Certificate of Conformity by importer**

Regulation 97 (E) (1) Any importer issued with a Certificate of Registration under regulation 97 shall submit to the Commission:-

- a. a test report as to the equipment's conformity with the safety standards as recognised by the Commission; or
- b. a Certificate of Conformity issued by a foreign conformity assessment body recognised by the Commission under regulation 97A.

- (2) A test report under subregulation (1) shall be issued by a testing laboratory recognised by the Commission and the report shall be valid for not less than one year and not exceeding five years from the date of the report.
- (3) A Certificate of Conformity under subregulation (1) shall be valid for not less than one year and not exceeding three years from the date of the certificate.
- (4) Upon expiry of a test report or the Certificate of Conformity, as the case may be, the importer shall submit a new test report or Certificate of Conformity to the Commission in accordance with this regulation.
- (5) An importer who submits a test report or Certificate of Conformity under this regulation shall ensure that such test report or Certificate of Conformity has a validity period of not less than one year before the expiry date.

#### **Duties to keep technical files of equipment, etc.**

- Regulation 97 (F) (1) A manufacturer or importer issued with a Certificate of Registration under regulation 97C shall keep all files of any equipment is-sued together with a test report or Certificate of Conformity, as the case may be, for not less than ten years after the last equipment has left the production line.
- (2) A testing laboratory accredited by the accreditation authority, shall keep all technical files of any equipment issued together with a test report for not less than six years after the expiry of that test report.
  - (3) A local conformity assessment body shall keep all technical files of any equipment issued with a Certificate of Conformity for not less than six years after the expiry of the validity of the Certificate of Conformity.

## Marking or labelling of approved equipment

Regulation 98

Where an equipment has been approved for manufacture, import, display, sale or advertisement by the Commission, the person to whom a Certificate of Approval has been issued under regulation 97 may be required by the Commission to mark or label the equipment and he shall do so in the manner to be determined by the Commission.

## Samples of equipment to be delivered to Commission

Regulation 99

- (1) Any application for a Certificate of Approval of any equipment referred to in regulation 97 shall be made to the Commission in the manner to be determined by the Commission.
- (2) The applicant shall deliver to the Commission samples of the equipment in sub regulation (1) and such other information in connection therewith, including drawings, photographs, pamphlets and technical literature, as the Commission may require.
- (3) A sample delivered shall have attached or affixed thereto a label bearing the following particulars:
  - a. the full name of the applicant;
  - b. the nature of the equipment;
  - c. the energy efficiency of the equipment; and
  - d. the catalogue or type number of the manufacturer, or any other means of identifying the equipment
- (4) The Commission shall not be liable for any loss or damage caused to any equipment delivered under sub regulation (2).

## Test and modification before approval

Regulation 100

- (1) The Commission may cause one or more samples of the equipment in regulations 99 to be examined and tested.
- (2) Where the Commission considers that the equipment examined and tested in sub regulation (1) is likely to cause danger, the person applying for approval thereof shall modify or alter the equipment to suit the Commission's requirements before submitting any further samples thereof.

## **Submission for test and seizure of dangerous equipment**

- Regulation 101
- (1) The Commission may at any time by notice in writing require a person who manufactures, imports sells and advertises any equipment to deliver, within such time as may be specified in the notice, samples of the equipment for an examination and a test thereof.
  - (2) If any equipment is, in the opinion of the Commission, unsafe or dangerous or likely to become unsafe or dangerous to use, the Commission may prohibit the manufacture, import, display, advertisement or sale of the equipment and may direct the person in sub regulation (1) to withdraw immediately all the equipment from use or sale and where necessary may seize and remove such equipment.
  - (3) The Commission shall not be liable for any loss or damage caused to any equipment delivered or seized and removed under subregulation (1) or (2), as the case may be.

## **Efficient use of electricity by equipment**

- Regulation 101A
- (1) For the purpose of efficient use of electricity, prior to an application for a Certificate of Approval under regulation 97, any person who manufactures, imports, sells or offers for sale or lease any equipment under that regulation, shall ensure that such equipment meets the energy performance testing standards, the minimum energy performance standards and the efficiency ratings as set out in the Fourth Schedule.
  - (2) For the purposes of sub regulation (1), a manufacturer or an importer of such equipment shall submit an energy performance testing report in accordance with regulation 101B.
  - (3) Any equipment that meets all the requirements of efficient use of electricity under sub regulation (1) shall be affixed with an efficiency rating label in such form and manner as may be determined by the Commission.



## Energy performance testing report

- Regulation 101B
- (1) An energy performance testing report under sub regulation 101A(2) shall be submitted to the Commission, in a manner that may be determined by the Commission.
  - (2) An energy performance testing report referred in sub regulation (1) shall be valid for not less than one year and not exceeding five years from the date of the report.
  - (3) Upon expiry of an energy performance testing report, a manufacturer or an importer shall submit a new energy performance testing report to the Commission in accordance with this regulation.
  - (4) A manufacturer or an importer who submits an energy performance testing report under this regulation shall ensure that such test report has a validity period of not less than one year before the expiry date.

## Submission for test and seizure for the purpose of efficient use of electricity

- Regulation 101C
- (1) The Commission may, at any time, by notice in writing, require any person who manufactures, imports, sells or offers for sale or lease such equipment as referred to in regulation 101A, to deliver, within such period as may be specified in the notice, samples of the equipment for an examination and a test.
  - (2) If, in the opinion of the Commission, any equipment which does not fulfil the requirements of efficient use of electricity under regulation 101A, the Commission may prohibit the manufacturing, importing, selling or offering for sale or lease of the equipment and may direct the person referred to in sub regulation (1) to withdraw or recall within the stipulated period, all the equipment from manufacturing, importing, selling or offering for sale or lease and where necessary, may seize and remove such equipment.

- (3) The Commission shall not be liable for any loss or damage caused in the delivery or seizure and removal of equipment under sub regulation (1) or (2), as the case may be.

### **Renewal of Certificate of Registration**

Regulation 102      The renewal of any Certificate of Registration issued under regulation 97B and 97C shall be made not less than fourteen days before the date of expiry of the Certificate.

### **Transfer of Certificate of Registration**

Regulation 103      (1) No Certificate of Registration issued under regulation 97B and 97C shall be transferred by the holder of the Certificate to any other person except with the written permission of the Commission.

- (2) The holder of any Certificate of Registration issued under regulation 97B and 97C shall obtain approval from the Commission in writing for any change of name or address in connection with the business and the Certificate shall be amended or replaced without payment of any fee.

### **Cancellation of Certificate of Registration**

Regulation 104      (1) The Commission may cancel a Certificate of Registration issued under regulation 97B and 97C if –

- a. the holder of the Certificate ceases to carry on the business in respect of which he is registered;
- b. the holder of the Certificate has been adjudicated a bankrupt;
- c. the company goes into liquidation;
- d. the holder of the Certificate or his servant or agent contravenes or fails to comply with any provisions of the Act or these Regulations; or
- e. the holder of the Certificate has obtained the Certificate by making or causing to be made any false or fraudulent declaration, certification or representation, either in writing or otherwise.

- (2) Where a Certificate of Registration is cancelled by the Commission pursuant to sub regulation (1), the Certificate shall be returned to the Commission by the person, to whom the Certificate was issued, within fourteen days of the person being notified in writing of the cancellation.

### **Removal from and reinstatement to the Register of Certificate of Registration**

- Regulation 105
- (1) There shall be removed from the Register the name and other particulars of any person whose Certificate of Registration was issued under regulation 97B and 97C –
    - a. where he has failed to renew his Certificate of Registration by the date of expiry thereof; or
    - b. where his Certificate of Registration has been cancelled under regulation 104.
  - (2) A person whose name has been removed from the Register under sub regulation (1) may appeal, within thirty days of the removal from the Register, for reinstatement and the Commission, upon receipt of satisfactory evidence or reasons for his reinstatement, may register him again.
  - (3) The person referred to in sub regulation (2) who feels aggrieved by the decision of the Commission not to reinstate him may apply to the Minister for re-consideration of the matter.
  - (4) The application under sub regulation (3) shall be made in writing within twenty-one days from the date of the decision of the Commission and shall contain the grounds of grievance.
  - (5) The decision of the Minister on the matter referred to him under sub regulation (3) shall be final.

### **Renewal of CoA**

- Regulation 106
- Renewal of a Certificate of Approval issued under regulation 97 shall be made not less than 14 days before the date of expiry of the Certificate.

## **Transfer of CoA**

- Regulation 107
- (1) No Certificate of Approval issued under regulation 97, shall be transferred by the holder of the Certificate to any other person except with the written permission of the Commission.
  - (2) The holder of a Certificate of Approval issued under regulation 97, shall obtain approval from the Commission in writing for any change of name or address in connection with the business and the Certificate shall be amended or replaced without payment of any fee.

## **Cancellation of CoA**

- Regulation 108
- (1) The Commission may cancel a Certificate of Approval issued in respect of any equipment referred to in regulation 97 if-
    - a. the equipment is found to be unsafe for use upon any examination or test thereof;
    - b. the person to whom the Certificate was issued, uses it for a purpose different from that for which it was issued or in a manner calculated to mislead or deceive the public;
    - c. the person has contravened or failed to comply with any of the provisions of the Act or these Regulations; or
    - d. the holder of the Certificate has obtained the Certificate by making or causing to be made any false or fraudulent declaration, certification or representation, either in writing or otherwise
  - (2) Where a Certificate of Approval is cancelled by the Commission pursuant to sub regulation (1), the Certificate shall be returned to the Commission by the person to whom the Certificate was issued within fourteen days of the person being notified in writing of the cancellation.

## Removal from and Reinstatement Approval to the Register of CoA

- Regulation 109
- (1) There shall be removed from the Register the name and other particulars or any person whose Certificate of Approval was issued under regulation 97-
    - a. where he has failed to renew his Certificate of Approval by the date of expiry thereof; or
    - b. where his Certificate of Approval has been cancelled under regulation 108.
  - (2) A person whose name has been removed from the Register under sub regulation (1) may appeal, within 30 days of the removal from the Register, for reinstatement and the Commission, upon receipt of satisfactory evidence or reasons for his reinstatement, may register him again.
  - (3) The person referred to in sub regulation (2) who feels aggrieved by the decision of the Commission not to reinstate him, may apply to the Minister for re-consideration of the matter.
  - (4) The application under sub regulation (3) shall be made in writing within twenty-one days from the date of the decision of the Commission and shall contain the grounds of grievance.
  - (5) The decision of the Minister on the matter referred to him under sub regulation (3) shall be final.

## Market surveillance

- Regulation 109A
- (1) The Commission may, from time to time, carry out market surveillance to determine if any equipment referred to in regulation 97 is safe and is affixed with a label in accordance with regulation 98 or an efficiency rating label, or both, as the case may be.



- (2) Whoever, intentionally or knowingly-
  - a. removes, withdraws or assists in the removal or withdrawal of any equipment, which is not labelled in accordance with regulation 98 or which does not bear an efficiency rating label, or both, as the case may be, from any premises in order to obstruct or hinder the Commission, its authorised officers or agents from exercising any of its powers; or
  - b. harbours, keeps, conceals, or is in the possession of any equipment which is not labelled in accordance with regulation 98 or which does not bear an efficiency rating label, or both, as the case may be, with the intention to sell or offer for sale, Commits an offence.

### **Savings and transitional provision**

- (1) Any existing local conformity assessment body already in operation before the coming into operation of these Regulations, shall apply to be registered with the Commission within a period of six months from the date of coming into operation of these Regulations.
- (2) Upon coming into operation of these Regulations, any manufacturer or importer shall apply to be registered with the Commission in accordance with regulation 97C, within a period of one year from the date of coming into operation of these Regulations.
- (3) Any existing equipment which had been manufactured, imported, sold or offered for sale or lease before the coming into operation of these Regulations shall be required to comply with regulation 101A, within one year from the date of coming into operation of these Regulations.

## Offences and Penalty

Section 37(1), Electricity Supply (Amendment) Act 2015	Any person who tampers with or adjusts any installation or part thereof or manufactures or imports or sells any equipment so as to cause or to be likely to cause danger to human life or limb or injury to any equipment or other property shall be guilty of an offence and for each such offence shall, on conviction, be liable to a fine not exceeding RM1,000,000 or to imprisonment for a term not exceeding 10 years or to both.
Regulation 122, Electricity Regulation 1994	Unless otherwise made an offence under the Act, a person who contravenes or fails to comply with any of the provisions of these Regulations shall be guilty of an offence and shall, on conviction, be liable to a fine not exceeding RM5,000 or to imprisonment for a term not exceeding 1 year or to both.



## CHAPTER 4



# PARTIES THAT NEED TO APPLY FOR CERTIFICATE OF APPROVAL (CoA)

## **Importers**

Importers of electrical equipment under sub regulation 97(1) of the Electricity Regulations 1994 are required to apply for the CoA from the Commission. An importer shall be a Malaysian company registered with the Companies Commission of Malaysia.

## **Manufacturers**

Manufacturers who manufacture electrical equipment under regulation 97(1) of the Electricity Regulations 1994 are required to apply for the CoA.

## **Exhibitors**

Exhibitors who display electrical equipment under sub regulation 97(1) of the Electricity Regulations 1994 are also required to apply for the CoA.

## **Sellers and Advertisers**

Sellers and advertisers of electrical equipment are required to apply for the CoA and to ensure that the electrical equipment to be sold or advertised are in accordance with sub regulation 97(1), 97(2) and 98 of the Electricity Regulations 1994.



## CHAPTER 5

# LIST OF REGULATED ELECTRICAL EQUIPMENT

**Note:** Regulated Electrical Equipment are to be tested to the specified standards. Equipment that are tested and certified to the same standards of later revisions are also acceptable.

No	Category	Description of Regulated Equipment	Detail of Equipment	Standards	
				National Standard	Equivalent International Standard
1	PLUG TOP/PLUG	(a) Plug <ul style="list-style-type: none"> <li>• makes a detachable connection between the contacts of a socket-outlet and the conductors of a flexible cord;</li> <li>• has insulating sleeves on the line and neutral plug pins for insertion into a socket-outlet; and</li> <li>• has a maximum rating of 15 A;</li> </ul>	Flat Non-Rewirable Two Pole Plug with supply cord (max. 2.5A)	MS 1578:2003	BS EN 50075:1991
			13 A Fused Plug	MS 589-1:2011	BS 1363:PT.1: 1995 +A1, A2, A3
			15 A Plug	MS 1577:2003	No corresponding international standard
		(b) Coupler <ul style="list-style-type: none"> <li>• is for attachment to a flexible cord; and</li> <li>• makes a detachable connection between the conductors of the cord and the pins or contacts of any low voltage appliance or equipment of a type intended or generally used for household applications</li> </ul>	Appliance Coupler	MS IEC 60320-1:2010	IEC 60320-1:2007
			Interconnection Coupler	MS IEC 60320-1:2010 MS IEC 60320-2-2:2011 (confirmed 2015)	IEC 60320-1:2007 IEC 60320-2-2: 1998
		(c) Adaptor <ul style="list-style-type: none"> <li>• extends supply from a socket-outlet;</li> <li>• incorporates one or more integral socket-outlets; and</li> <li>• has insulating sleeves on the line and neutral plug pins.</li> </ul>	Adaptor (Multiways)	MS 589-3:2018	BS 1363 PT.3:1995 +A1, A2, A3
			Integrated Adaptor	MS 1144:2017	BS 5733:2010+A1 2014
			Travel Adaptor	No corresponding MS No corresponding MS	IEC 60884-1:2006 IEC 60884-2-5:1995
		(d) Connector <ul style="list-style-type: none"> <li>• Connecting devices for the connection of two or more electrical copper conductors.</li> </ul>	Electrical Connector (connecting device)	MS IEC 60998-1:2005	IEC 60998-1:2002
			Connecting device with screw type clamping unit	MS IEC 60998-1:2005 MS IEC 60998-2-1:2005	IEC 60998-1:2002 IEC 60998-2-1:2002
			Connecting device with screw-less type clamping unit	MS IEC 60998-1:2005 MS IEC 60998-2-2:2005	IEC 60998-1:2002 IEC 60998-2-2:2002

No	Category	Description of Regulated Equipment	Detail of Equipment	Standards	
				National Standard	Equivalent International Standard
			Connecting device with insulation-piercing clamping units	MS IEC 60998-1:2005 MS IEC 60998-2-3:2005	IEC 60998-1:2002 IEC 60998-2-3:2002
			Twist-on connecting device	MS IEC 60998-1:2005 MS IEC 60998-2-4:2005	IEC 60998-1:2002 IEC 60998-2-4:2002
			Connecting boxes	MS 1873:2005 MS 1873-22:2006	IEC 60670-1:2002 with modification IEC 60670-22:2002 with modification
2	SWITCH AND DIMMER	<ul style="list-style-type: none"> <li>is an air-break switch;</li> <li>is for connection to the wiring of an electric installation;</li> <li>is primarily for mounting on a vertical surface</li> <li>is manually opened and manually closed; and</li> <li>has a rating up to 63A.</li> </ul>	General Purpose Switch	MS IEC 60669-1:2012	IEC 60669-1:2007
			Door Bell & Chime	MS IEC 61558-1:2005 MS IEC 61558-2-8:2007	IEC 61558-1:2009 IEC 61558-2-8:2010
			Electronic Switch	MS IEC 60669-1:2012 MS IEC 60669-2-1:2012	IEC 60669-1:2007 IEC 60669-2-1:2009
			Remote-control Switch	MS IEC 60669-1:2012 MS IEC 60669-2-2:2012	IEC 60669-1:2007 IEC 60669-2-2:2006
			Time Delay Switch	MS IEC 60669-1:2012 MS IEC 60669-2-3:2012	IEC 60669-1:2007 IEC 60669-2-3:2006
			Cooker Control Unit	No corresponding MS	BS 4177:1992
3	SOCKET OUTLET	(a) Socket Outlet <ul style="list-style-type: none"> <li>is for fixing at a point at which fixed wiring terminates;</li> <li>provides a detachable connection with the pins of a plug;</li> <li>has two, or more contacts; and has a maximum rating of 15 A;</li> <li>with switch and without switch socket outlet.</li> </ul>	Electric Shaver Socket Outlet	MS IEC 61558-1:2005 MS IEC 61558-2-5:2005	IEC 61558-1:2009 IEC 61558-2-5:2010
			13A Switch & unswitch socket outlet	MS 589-2:2018	BS 1363:PT 2:1995 +A1, A2, A3
			15A socket outlet & Plug	MS 1577:2003	No corresponding international standard
			Portable 2 pin socket outlet class II	MS 1579: 2003	No corresponding international standard



		(b) Portable <ul style="list-style-type: none"> <li>• A device comprising a flexible cable or cord attached to a reel so constructed that the flexible cable may be completely wound onto the reel, and provided with a plug and one or more socket outlets.</li> </ul>	Portable cable reel	MS 1141: 2006	IEC 61242: 2008 with modification
4	FLUORESCENT LAMPHOLDER / STARTER HOLDER	(a) Lamp Holder Holds tubular fluorescent lamp <i>but does not include: A lamp holder which by design is restricted to specific appliances.</i>	Lamp holder for tubular fluorescent lamp	MS IEC 60400: 2006	IEC 60400: 2004
		(b) Starter Holder to hold a glow starter  <i>but does not include: A a starter holder which by design is restricted to specific appliances.</i>	Starter holder for tubular fluorescent lamp	MS IEC 60400: 2006	IEC 60400: 2004
5	CEILING ROSE	<ul style="list-style-type: none"> <li>• a terminal for connection to a lamp holder via a cable.</li> </ul>	Ceiling Rose	MS 770:1982 (confirmed 2006)	BS 67:1969
		<ul style="list-style-type: none"> <li>• Edison Screw Lamp holder with Edison screw thread E14, E27 and E40, designed for holding and connecting to the supply of lamps.</li> </ul>	Edison Screw Lamp holder	MS IEC 60238:2008	IEC 60238:2004
6	BAYONET CAP and MULTIWAYS ADAPTOR	<ul style="list-style-type: none"> <li>• holds a bayonet cap lamp, bayonet cap adaptor</li> </ul> <i>but does not include:</i> <ul style="list-style-type: none"> <li>• a lamp holder, which by design, is restricted to specific appliances</li> <li>• a lamp holder which is for incorporation in an industrial equipment</li> </ul>	Bayonet cap Lamp holder	No corresponding MS	IEC 61184:2008+A1
			Bayonet Lamp Adaptor	MS 769:1982 (confirmed 2013) with IEC 61184:2008	IEC 61184:2008 with modification

No	Category	Description of Regulated Equipment	Detail of Equipment	Standards	
				National Standard	Equivalent International Standard
7	LAMP FITTING	(a) Luminaires <ul style="list-style-type: none"> <li>provides illumination;</li> <li>incorporate electric light sources for operation from supply voltage up to 1000V.</li> </ul>	Fixed general purpose Luminaires (excluding Tube/Bulb), Batten Luminaires (excluding Tube/Bulb), Luminaires with self-ballasted fluorescent lamp	MS IEC 60598-1:2012 MS IEC 60598-2-1:1997 (confirmed 2015)	IEC 60598-1:2008 IEC 60598-2-1:1979
			Recessed Luminaires (excluding Tube/Bulb)	MS IEC 60598-1:2012 MS IEC 60598-2-2:1998 (confirmed 2011)	IEC 60598-1:2008 IEC 60598-2-2:1997
		(b) Glow Starter <ul style="list-style-type: none"> <li>is for starting preheat type fluorescent lamps;</li> <li>is a glow-start type; and</li> <li>has an enclosure of insulating material</li> <li>holds a light source or bulb.</li> </ul>	Glow-starter for tubular fluorescent	MS IEC 60155:1996	IEC 60155:2006
		(c) Self-ballasted Compact Fluorescent Lamp (CFL) <ul style="list-style-type: none"> <li>Lamp which cannot be dismantled without being permanently damaged, provided with a lamp cap incorporating a light source and any elements necessary for starting and stable operation of the light source.</li> </ul>	with Edison screw or bayonet caps	MS IEC 60968:2006 (confirmed 2011) MS IEC 60969:2006 (confirmed 2015)	IEC 60968:1999 IEC 60969:2001

		(d) LED Lighting	Lamp control gear: Particular requirements for dc or ac supply electronic control gear for LED modules	MS IEC 61347-1:2012 MS IEC 61347-2-13:2012	IEC 61347-1:2010 IEC 61347-2-13:2006
			Lamp holder (Connectors for LED-modules)	MS IEC 60838-1:2008 MS IEC 60838-2-2:2008	IEC 60838-1:2004 IEC 60838-2-2:2006
			Self-ballasted LED Modules for general Lighting services by voltage > 50V	MS IEC 62031:2011 with MS IEC 60061-1:2005	IEC 62031:2008+A1, A2 with IEC 60061-1:2005
			Self-ballasted double capped LED Lamps for general lighting services by voltage > 50V (to retrofit linear fluorescent lamp)	MS IEC 62776:2017	IEC 62776:2014
			Self-ballasted single capped LED-lamps for general lighting services by voltage > 50V	MS IEC 62560:2012	IEC 62560:2011
8	CAPACITOR for FLUORESCENT LAMP	<ul style="list-style-type: none"> <li>is used together with a ballast in a lamp circuit.</li> </ul>	Capacitors for use in tubular fluorescent lamps and other circuits.	MS IEC 61048: 2006 MS IEC 61049: 1999 (confirmed 2015)	IEC 61048: 1999 IEC 61049: 1991
9	BALLAST / CONTROL GEAR / DRIVER FOR LAMP	(a) Ballast <ul style="list-style-type: none"> <li>is for controlling the magnitude of current flowing through the discharge path of a fluorescent lamp,</li> <li>is of the independent or built-in type intended for use with luminaires (portable or fixed); or</li> <li>is of the integral type such that it forms a non-replaceable part of a fluorescent lamp/ ballast combination; or</li> <li>is of the adaptor type such that it allows the insertion of a fluorescent lamp into the ballast by the user;</li> </ul>	Magnetic Ballast for tubular fluorescent lamp	MS IEC 61347-1: 2012 MS IEC 61347-2-8:2003 MS 141:2014 with MS IEC 60921:2013	IEC 61347-1: 2010 IEC 61347-2-8: 2000 IEC 60921:2006 with modification
			Electronic Ballast for fluorescent lamp	MS IEC 61347-1:2012 MS IEC 61347-2-3:2003 MS IEC 60929: 2008 with MS IEC 61000-3-2: 2014	IEC 61347-1:2010 IEC 61347-2-3:2000 IEC 60929:2006 with IEC 61000-3-2: 2009

No	Category	Description of Regulated Equipment	Detail of Equipment	Standards	
				National Standard	Equivalent International Standard
		<p><i>but does not include :</i></p> <ul style="list-style-type: none"> <li><i>a ballast which is incorporated in luminaires certified for compliance with the requirements for electrical equipment with increased safety type protection (Explosive) for use in hazardous locations.</i></li> </ul>			
		<p>(b) Control Gear</p> <ul style="list-style-type: none"> <li>General safety for lamp control gear for use on dc supply up to 250V and or ac supply up to 1000 V</li> </ul>	Control Gear	MS IEC 61347-1:2012	IEC 61347-1:2010
10	CIRCUIT BREAKER including AC CURRENT OPERATED EARTH LEAKAGE CIRCUIT BREAKER and MINIATURE CIRCUIT BREAKER	<p>(a) Residual Current Device (RCD)</p> <ul style="list-style-type: none"> <li>isolates or initiates a tripping signal to isolate a low-voltage supply to protected circuits, socket-outlets or equipment in the event of a current flow to earth which exceeds a pre-determined level;</li> <li>has a rated residual current less than 300mA for devices intended for connection to fixed wiring or 10mA for other devices; and</li> <li>has a rated load current not exceeding 125 A for devices intended for connection to fixed wiring or 20 A for other devices.</li> </ul>	Residual Current Circuit Breaker (RCCB)	<p>MS IEC 61008-1: 2012</p> <p>MS IEC 61008-2-1: 2003</p> <p>or</p> <p>MS IEC 61008-1: 2012</p> <p>MS IEC 61008-2-2: 2003</p>	<p>IEC 61008-1: 2010</p> <p>IEC 61008-2-1: 1990</p> <p>or</p> <p>IEC 61008-1: 2010</p> <p>IEC 61008-2-2: 1990</p>
			Residual Current Breaker with Overcurrent Protection (RCBO)	<p>MS IEC 61009-1: 2012</p> <p>MS IEC 61009-2-1: 2003</p> <p>or</p> <p>MS IEC 61009-1: 2012</p> <p>MS IEC 61009-2-2: 2003</p>	<p>IEC 61009-1: 2010</p> <p>IEC 61009-2-1: 1991</p> <p>or</p> <p>IEC 61009-1: 2010</p> <p>IEC 61009-2-2: 1991</p>

		<p>but does not include :-</p> <ul style="list-style-type: none"> <li>• a device intended to be used with a particular circuit-breaker other than a miniature over-current circuit-breaker; or</li> <li>• a device intended to protect an electricity supply authority distribution system.</li> </ul>			
		<p>(b) Fuse</p> <ul style="list-style-type: none"> <li>• is an enclosed air-break switch;</li> <li>• opens a low voltage circuit automatically under pre-determined conditions of over-current;</li> <li>• has a nominal rating not exceeding 125 A and has a current breaking capacity of up to 10kA.</li> <li>• is by the fusion of one or more of its specially designed and proportioned components, opens the circuit in which it is inserted and breaks the current when this exceeds a given value for a sufficient time. The fuse comprises all the parts that form the complete device.</li> </ul>	Miniature Circuit Breaker (MCB) for ac supply	MS IEC 60898-1: 2007	IEC 60898-1: 2003
			Miniature Circuit Breaker (MCB) for ac & dc supply	MS IEC 60898-2: 2007	IEC 60898-2: 2003
			Fuse Base & Carrier up to 32A	MS IEC 60269-1:2011 MS IEC 60296-2:2011	IEC 60269-1:2006 IEC 60269-2:2006
			Fuse/Fuse Link up to 63A	MS IEC 60269-2:2011 MS IEC 60269-3:2011	IEC 60269-2:2006 IEC 60269-3:2010
			Switch fuse up to 63A.	MS IEC 60947-1:2010 MS IEC 60947-3:2010	IEC 60947-1:2007 IEC 60947-3:2008
11	<b>PORTABLE LUMINAIRE LAMP</b>	<ul style="list-style-type: none"> <li>• is a household type;</li> <li>• provides illumination or for decorative purposes, produces light;</li> <li>• is fitted with a supply flexible cord, an appliance inlet socket or a power supply unit with integral pins for insertion into a socket outlet;</li> <li>• is for standing on a table or floor, or is fitted with a clamp or similar for attachment to vertical or horizontal surfaces;</li> </ul>	<p>Standing Lamp with detachable or non-detachable mains supply flexible cord,</p> <p>Standing Lamp &amp; adaptor,</p> <p>Table lamp with detachable or non-detachable mains supply flexible cord,</p> <p>Table Lamp &amp; adaptor,</p>	<p>MS IEC 60598-1: 2012</p> <p>MS IEC 60598-2-4: 2003 (confirmed 2015)</p>	<p>IEC 60598-1:2008</p> <p>IEC 60598-2-4: 1997</p>

No	Category	Description of Regulated Equipment	Detail of Equipment	Standards	
				National Standard	Equivalent International Standard
		<ul style="list-style-type: none"> <li>is for use with tungsten filament, tubular fluorescent or other discharge lamps; and</li> <li>is constructed to represent a model, person or animal and is likely to be treated by a child as a toy; or</li> <li>has metal parts which are required to be earthed or double insulated from live parts (excluding live parts of an all insulated lamp holder)</li> <li>is for inspection purposes using illumination;</li> <li>holds a light source or bulb; and</li> <li>is hand held;</li> </ul> <p><i>but does not include</i></p> <ul style="list-style-type: none"> <li><i>hand lamp with a magnification facility.</i></li> </ul>	Portable LED Lamp  Night Lamp integral with direct in plug.  Hand Lamp & adaptor,		  IEC 60598-1:2008 IEC 60598-2-12:2006  IEC 60598-1:2008 IEC 60598-2-8:2007
12	KETTLE including HEATING ELEMENTS IF SUPPLIED SEPARATELY	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is portable;</li> <li>has a capacity not exceeding 15L; and</li> <li>heats liquid for:               <ul style="list-style-type: none"> <li>* humidifying room air; or</li> <li>* hot beverage; or</li> <li>* cooking purpose</li> </ul> </li> </ul>	Warming Plate  Deep Fryer  Heating Liquids such as: Coffee/Tea Maker, Food Steamer, Egg Boiler, Jug, Slow Cooker, Pressure Cooker, Steam Boat, Kettle, Airpot, Bottle Warmer, Sterillizer.	MS IEC 60335-1:2015 MS IEC 60335-2-12:2014  MS IEC 60335-1:2015 MS IEC 60335-2-13:2017  MS IEC 60335-1:2015 MS IEC 60335-2-15:2017	IEC 60335-1:2010 IEC 60335-2-12:2008  IEC 60335-1: 2010 IEC 60335-2-13:2009  IEC 60335-1: 2010 IEC 60335-2-15:2012

			Multi-purpose cooker	MS IEC 60335-1:2015 MS IEC 60335-2-9:2014 MS IEC 60335-2-13:2006 MS IEC 60335-2-15:2004	IEC 60335-1: 2010 IEC 60335-2-9:2008 IEC 60335-2-13:2004 IEC 60335-2-15:2002
			Water Dispenser -Filter/Ionizer/ Hydrogen	MS IEC 60335-1: 2015	IEC 60335-1: 2010
			Water Dispenser - Hot	MS IEC 60335-1: 2015 MS IEC 60335-2-15:2004	IEC 60335-1: 2010 IEC 60335-2-15:2002
			Water Dispenser - Cold	MS IEC 60335-1: 2015 MS 1597-2-24:2005	IEC 60335-1:2010 IEC 60335-2-24:2010
			Water Dispenser – Hot and Cold (if the hot water boils)	MS IEC 60335-1: 2015 MS 1597-2-24:2005 (confirmed 2013) MS IEC 60335-2-15:2004	IEC 60335-1:2010 IEC 60335-2-15:2002 IEC 60335-2-24:2005
			Water Dispenser – Hot and Cold (if the hot water does not boils)	MS IEC 60335-1: 2015 MS 1597-2-24:2005 (confirmed 2013) MS 1597-2-21:2015	IEC 60335-1:2010 IEC 60335-2-24:2002 IEC 60335-2-21:2012 with modification
			Water Dispenser – Hot and Cold (if the water heater is instantaneous and the water does not boils)	MS IEC 60335-1: 2015 MS 1597-2-24:2005 (confirmed 2013) MS 1597-2-35:2010	IEC 60335-1:2010 IEC 60335-2-15:2002 IEC 60335-2-35:2006 with modification
13	KITCHEN MACHINE	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is for the preparation of food by mechanical means; or</li> <li>is for opening cans; or</li> <li>is for sharpening of knives</li> </ul>	Blender, Chopper, Food Processor, Juice Extractor, Grinder , Mixer.	MS IEC 60335-1: 2015 MS IEC 60335-2-14:2014	IEC 60335-1:2010 IEC 60335-2-14:2008



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14	TOASTER / OVEN (Cooking Appliance)	<ul style="list-style-type: none"> <li>is a household type; and</li> <li>is for toasting bread or similar food;</li> <li>is for cooking or warming food by electrical energy;</li> <li>applies heat to food, liquid or other substances in a chamber by means of high-frequency electromagnetic radiation.</li> </ul>	Stationary type:- Electric Oven, Induction Hob, Induction Cooker, Cooking Range, Grill.	MS IEC 60335-1:2015 MS IEC 60335-2-6:2014	IEC 60335-1:2010 IEC 60335-2-6:2008
			Portable type:- Bread Maker, Bread Toaster, Portable Oven, Induction Cooker, Grill, Sandwich Maker, Waffle Maker, Roaster, Barbeque, Pop-corn maker.	MS IEC 60335-1:2015 MS IEC 60335-2-9:2014	IEC 60335-1:2010 IEC 60335-2-9:2008
			Microwave Oven	MS IEC 60335-1:2015 MS IEC 60335-2-25:2014	IEC 60335-1:2010 IEC 60335-2-25:2010
15	RICE COOKER	<ul style="list-style-type: none"> <li>is a household type; and</li> <li>is used for cooking rice</li> </ul> <p><i>But does not include –</i></p> <ul style="list-style-type: none"> <li>a type, promoted exclusively to industry/commercial sector.</li> </ul>	Rice Cooker	MS IEC 60335-1:2015 MS IEC 60335-2-15:2004	IEC 60335-1:2010 IEC 60335-2-15:2002
16	REFRIGERATOR	<ul style="list-style-type: none"> <li>is a household type; and</li> <li>cools and stores food.</li> </ul> <p><i>But does not include –</i></p> <ul style="list-style-type: none"> <li>a type, promoted exclusively to industry/commercial sector.</li> </ul>	Refrigerator, Freezer, Minibar, Chest Freezer.	MS IEC 60335-1:2015 MS 1597: Part 2-24:2005 (confirmed 2013)	IEC 60335-1:2010 IEC 60335-2-24:2005 with modification

17	IMMERSION WATER HEATER	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is for heating liquid in which it may be immersed; and</li> <li>is self contained; and includes –</li> <li>aquarium type immersion heaters</li> </ul>	Fixed Immersion Heater	MS IEC 60335-1:2015 MS IEC 60335-2-73:2014	IEC 60335-1:2010 IEC 60335-2-73:2009
			Portable Immersion Heater	MS IEC 60335-1:2015 MS IEC 60335-2-74:2010	IEC 60335-1:2010 IEC 60335-2-74:2006
18	WATER HEATER including HEATING ELEMENTS IF SUPPLIED SEPARATELY	(a) Storage <ul style="list-style-type: none"> <li>is for heating and storage of water for bathing, washing or similar purposes;</li> <li>incorporates a heating element; and</li> <li>has a storage capacity not less than 4,5 L or not more than 680 L.</li> </ul>	Storage Water Heater	MS IEC 60335-1:2015 MS 1597-2-21:2015	IEC 60335-1:2010 IEC 60335-2-21:2012 with modification
		(b) Instantaneous <ul style="list-style-type: none"> <li>is for heating water;</li> <li>is of the instantaneous type; and</li> <li>incorporates live parts in contact with water.</li> </ul>	Instantaneous Water Heater	MS IEC 60335-1:2015 MS 1597-2-35:2010	IEC 60335-1:2010 IEC 60335-2-35:2006 with modification
19	WASHING MACHINE	<ul style="list-style-type: none"> <li>is a household type; and</li> <li>is used for washing/drying clothes.</li> </ul> <p><i>but does not include - a type, promoted exclusively to industry/ commercial sector.</i></p>	Washing Machine with dryer	MS IEC 60335-1:2015 MS IEC 60335-2-7:2007	IEC 60335-1:2010 IEC 60335-2-7:2006
			Washing Machine with separate spin container	MS IEC 60335-1:2015 MS IEC 60335-2-4:2007 MS 1597:Part 2-7:2017	IEC 60335-1:2010 IEC 60335-2-4:2004 IEC 60335-2-7:2012 with modification
			Tumbler Dryers	MS IEC 60335-1:2015 MS IEC 60335-2-11:2014	IEC 60335-1:2010 IEC 60335-2-11:2012
			Cloth Dryers (on rack located)	MS IEC 60335-1:2015 MS IEC 60335-2-43:2014	IEC 60335-1:2010 IEC 60335-2-43:2008
			<ul style="list-style-type: none"> <li>household type;</li> <li>for washing and rinsing dishes.</li> </ul>	Dish Washer and other utensils.	MS IEC 60335-1:2015 MS 1597-2-5:2005

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20	FAN	<ul style="list-style-type: none"> <li>is a household type;</li> <li>has a primary function of moving air in its vicinity; and</li> <li>is self contained;</li> </ul>	Moving-louver fan, Ceiling fan, Auto fan, Pedestal fan, Table fan, Wall fan & applies to their separate regulators and with blade.	MS IEC 60335-1: 2015 MS 1597-2-80:2010 MS 1220:2010	IEC 60335-1:2010 IEC 60335-2-80:2008 with modification for ceiling fan only IEC 60879:1986 with modification
			Ventilating fan, Decorative fan & applies to their separate regulators and fan without blade.	MS IEC 60335-1: 2015 MS 1597-2-80:2010	IEC 60335-1:2010 IEC 60335-2-80:2008 with modification for ceiling fan only
			Range Hood	MS IEC 60335-1: 2015 MS IEC 60335-2-31:2014	IEC 60335-1:2010 IEC 60335-2-31:2008
			Cleaning Appliances (eg. Air Purifier, Fruit & vegetable washer/ozone)	MS IEC 60335-1: 2015 MS IEC 60335-2-65:2014	IEC 60335-1: 2010 IEC 60335-2-65:2008
			Humidifiers (eg. Air Cooler, water diffuser)	MS IEC 60335-1: 2015 MS IEC 60335-2-98: 2014	IEC 60335-1: 2010 IEC 60335-2-98: 2008
21	HAND OPERATED HAIR DRYER/ HAIR-CARE/ SKIN CARE	<ul style="list-style-type: none"> <li>is a household type or a commercial hand-held type; and</li> <li>is for drying, styling or the caring of human hair.</li> </ul>	Hair Dryer, Hair Styling Set, Hand Dryer, Ionic Facial Steamer or similar to it.	MS IEC 60335-1: 2015 MS IEC 60335-2-23:2007	IEC 60335-1: 2010 IEC 60335-2-23: 2003
22	IRON	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is for smoothening or pressing fabric by the application of heat or steam;</li> </ul>	Iron	MS IEC 60335-1:2015 MS IEC 60335-2-3:2006	IEC 60335-1:2010 IEC 60335-2-3:2004
		<ul style="list-style-type: none"> <li>is hand held except for any separate steam generator; and includes:</li> <li>any associated equipment</li> </ul>	Fabric Steamer, Garment Steamer	MS IEC 60335-1: 2015 MS IEC 60335-2-85:2014	IEC 60335-1: 2010 IEC 60335-2-85:2008

23	SHAVER	<ul style="list-style-type: none"> <li>is a household type; and</li> <li>shaves, cuts or trims human hair.</li> </ul>	Shaver, Hair Clippers.	MS IEC 60335-1:2015 MS IEC 60335-2-8:2002 (confirmed 2013)	IEC 60335-1:2010 IEC 60335-2-8:1992+A1
24	VAPORISER	<ul style="list-style-type: none"> <li>is a household type; and</li> <li>Purpose as air fresheners and insect repellers.</li> </ul>	Mosquito Matt Vapour, (eg. Air Freshener, Insect repeller).	MS IEC 60335-1:2015 MS IEC 60335-2-101:2014	IEC 60335-1:2010 IEC 60335-2-101:2008
25	VACUUM CLEANER	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is portable; and</li> <li>removes dust, dirt or moisture and the like from floor coverings by suction; or</li> <li>removes garden refuse from lawns or paths and the like by suction.</li> </ul> <p><i>but does not include -</i></p> <ul style="list-style-type: none"> <li>a type, promoted exclusively to industry/commercial sectors.</li> </ul>	Vacuum Cleaner, Water Suction Cleaning.	MS IEC 60335-1:2015 MS IEC 60335-2-2:2006	IEC 60335-1:2010 IEC 60335-2-2:2004
26	HI-FIDELITY SET	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is for reproduction of sound, with little distortion, connected to the supply mains as the only energy source, intended for domestic and similar general indoor use with a rated supply voltage not exceeding 250 volts rms.</li> <li>An electronic device for reproduction of audio/video, connected to the supply mains, either directly or indirectly and intended for domestic and similar general indoor use</li> </ul>	Sub-woofer, Amplifier, Cassette Player, Equalizer/Mixer, Hi-Fi System, Karaoke, PA System, Portable Hi-Fi System, Portable Radio Cassette, Player/Recorder, Radio, Radio Alarm, Tuner/Receiver, Turn tables/ Record Players, Compact Disc Player, Audio/Video Recorder up to 4 channels.	MS IEC 60065:2007	IEC 60065:2005 or IEC 62368-1:2014

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27	VIDEO and VISUAL DISPLAY UNIT	<ul style="list-style-type: none"> <li>is for household use;</li> <li>is for receiving and displaying information from a transmitting station or local source</li> <li>is for the display of public or subscription television broadcasts.</li> </ul>	Electronic appliances such as: LCD, LED, Plasma, CRT, Internal Antenna/Booster, and similar to it.	MS IEC 60065:2007	IEC 60065:2005 or IEC 62368-1:2014
28	AUDIO and VIDEO PLAYER UNIT	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is for video recording and playback or for playback only, connected to the supply mains either directly or indirectly and intended for domestic and similar general indoor use.</li> </ul>	VCD, Laser Disc, Video Cassette Recorder, DVD, Video Rewinder, Children Video Game, Play station and similar to it.	MS IEC 60065: 2007	IEC 60065: 2005 or IEC 62368-1:2014
29	MASSAGER	<ul style="list-style-type: none"> <li>Is a household type.</li> </ul>	Foot Massagers, Massage Bed, Massage Chair, Massage Pads, Handheld Massagers, Massage Belts, Water filled foot massager.	MS IEC 60335-1:2015 MS IEC 60335-2-32:2014	IEC 60335-1:2010 IEC 60335-2-32:2008
30	AIR CONDITIONER (Cooling Capacity of 32,000 Btu/hr & below)	<ul style="list-style-type: none"> <li>A electrical assembly to provide delivery of conditioned air to an enclosed space, room or zone, including an electrically operated refrigeration system for cooling and possibly dehumidifying the air.</li> </ul>	Split Air-conditioner, Portable Air-conditioner, Ceiling Air-conditioner	MS IEC 60335-1:2015 MS 1597-2-40: 2017	IEC 60335-1:2010 IEC 60335-2-40:2013 with modification

31	CHRISTMAS LIGHT	<ul style="list-style-type: none"> <li>• is for decorative, display or illumination purposes; and</li> <li>• consists of – <ul style="list-style-type: none"> <li>- lamps or lamp holders interconnected by flexible cord of less than 2.5mm<sup>2</sup> cross-sectional area; or</li> <li>- lamps within a flexible enclosure; and includes – any integral power supply or control device.</li> </ul> </li> </ul>	Lighting Chain, Rope Light, Decorative/ Festive Light.	MS IEC 60598-1:2012 MS IEC 60598-2-20:2013	IEC 60598-1:2008 IEC 60598-2-20:2010
32	DOMESTIC POWER TOOLS (Portable Type)	<ul style="list-style-type: none"> <li>• is for machining, drilling, sawing, or surface preparation;</li> <li>• may be entirely supported by hand during operation;</li> <li>• a tool, portable type.</li> </ul> <p><i>but does not include -</i></p> <ul style="list-style-type: none"> <li>• <i>promoted exclusively to the industry/ commercial sector.</i></li> </ul>	Drill/Impact Drill (Drill bit size up to 15 mm)	MS IEC 60745-1:2010 MS IEC 60745-2-1:2011	IEC 60745-1:2006 IEC 60745-2-1:2003+A1
			Grinder (up to 100 mm)	MS IEC 60745-1:2010 MS IEC 60745-2-3:2010	IEC 60745-1:2006 IEC 60745-2-3:2006
			Sander/Polisher (up to 300 W)	MS IEC 60745-1:2010 MS IEC 60745-2-4:2011	IEC 60745-1:2006 IEC 60745-2-4:2002+A1
			Circular Saw and circular knife (Cutting Blade up to 160 mm)	MS IEC 60745-1:2010 MS IEC 60745-2-5:2010	IEC 60745-1:2006 IEC 60745-2-5:2006
			Spray gun for non-flammable liquid (up to 100 bars)	MS IEC 60745-1:2010 MS IEC 60745-2-7:2005	IEC 60745-1:2006 IEC 60745-2-7:1989
			Jig and Sabre Saw / reciprocating saw (up to 60 mm)	MS IEC 60745-1:2010 MS IEC 60745-2-11:2011	IEC 60745-1:2006 IEC 60745-2-11:2006
			Planer (up to 500 W)	MS IEC 60745-1:2011 MS IEC 60745-2-14:2011	IEC 60745-1:2006 IEC 60745-2-14:2006

No	Category	Description of Regulated Equipment	Detail of Equipment	Standards	
				National Standard	Equivalent International Standard
			Trimmer (up to 300 W) Hedge trimmer and Grass shears (up to 750 W)	MS IEC 60745-1:2010 MS IEC 60745-2-15:2011	IEC 60745-1:2006 IEC 60745-2-15:2006
			Router and trimmer (up to 500 W)	MS IEC 60745-1:2010 MS IEC 60745-2-17:2012	IEC 60745-1:2006 IEC 60745-2-17:2010
			High Pressure Cleaner	MS IEC 60335-1:2015 MS IEC 60335-2-79:2007	IEC 60335-1:2010 IEC 60335-2-79:2005
		<ul style="list-style-type: none"> <li>is a household type; and</li> <li>is for stitching fabric or other material</li> </ul>	Sewing Machine	MS IEC 60335-1:2015 MS IEC 60335-2-28:2003	IEC 60335-1:2010 IEC 60335-2-28:2002
		<ul style="list-style-type: none"> <li>is for the application or removal of solder; and</li> <li>is hand held;</li> </ul> <p><i>but does not include -</i></p> <ul style="list-style-type: none"> <li><i>a soldering iron promoted exclusively to industry</i></li> </ul>	Portable Heating Tool such as: Soldering Gun, Soldering Iron, Heat Gun, Hot Air Firelighters, Glue gun.	MS IEC 60335-1:2015 MS IEC 60335-2-45:2003	IEC 60335-1:2010 IEC 60335-2-45:2002
33	ADAPTER / CHARGER	<ul style="list-style-type: none"> <li>is a household type;</li> <li>is for charging batteries other than those of the automotive type;</li> <li>is self contained;</li> <li>is for charging one or more batteries for use in other equipment;</li> <li>is for charging battery for use in mobile phone/PDA.</li> <li>Is imported or manufactured separately (detachable).</li> </ul>	Portable Battery Charger (up to 12 V)	MS IEC 60335-1:2015 MS IEC 60335-2-29:2014	IEC 60335-1:2010 IEC 60335-2-29:2010
			Adapter for IT Equipment (up to 20V)	MS IEC 60950-1:2007 (confirmed 2013)	IEC 60950-1:2005 or IEC 62368-1:2014



		<p>A.C. - D.C. Adapters</p> <ul style="list-style-type: none"> <li>• A device to supply ac or dc power supply from an ac or dc source, either by itself or as part of an accessory, for domestic and similar general indoor use</li> </ul>	<p>General electrical appliances Electronic Isolating Transformer</p>	<p>MS IEC 61558-1:2005 MS IEC 61558-2-6: 2005</p>	<p>IEC 61558-1: 1998 IEC 61558-2-6:2009</p>
			<p>Switching mode power supply</p>	<p>MS IEC 61558-1:2005 MS IEC 61558-2-17:2007</p>	<p>IEC 61558-1:1998 IEC 61558-2-17:1997 or IEC 61558-2-16:2009</p>
			<p>Electric toys</p>	<p>MS IEC 61558-1:2005 MS IEC 61558-2-7: 2007</p>	<p>IEC 61558-1:2009 IEC 61558-2-7: 2007</p>
			<p>Audio video equipment</p>	<p>MS IEC 60065:2007</p>	<p>IEC 60065:2005 or IEC 62368-1:2014</p>
			<p>IT &amp; Office products</p>	<p>MS IEC 60950-1:2007</p>	<p>IEC 60950-1:2005 or IEC 62368-1:2014</p>
			<p>Baby Cradle, Breast Pump, Electric Heated Pillow</p>	<p>MS IEC 60335-1:2015</p>	<p>IEC 60335-1:2010</p>
34	<p>WIRE / CABLE / CORD (non-armoured) 0.5mm<sup>2</sup> to 35mm<sup>2</sup></p>	<ul style="list-style-type: none"> <li>• is unscreened and flexible ;</li> <li>• is designed for use at low voltage ;</li> <li>• consists of two or three elastomer or PVC insulated cores of multistrand construction ;</li> <li>• has a cross-sectional area of each conductor from 0.5mm<sup>2</sup> not exceeding 35mm<sup>2</sup></li> </ul>	<p>Polyvinyl chloride (PVC) Insulated flexible cord and cable</p>	<p>MS 2112-5:2009, A1:2017</p>	<p>BS EN 50525-2-11:2011 or IEC 60227-5:2011</p>
			<p>Rubber insulated cord and flexible cables</p>	<p>MS 2127-4:2017</p>	<p>BS EN 50525-2-11-2011 IEC 60245-1:2003+A1:2007 CSV</p>
			<p>PVC-insulated cable (non-armoured) for electric power and supply: - non-sheathed</p>	<p>MS 2112-3:2009, A1:2015</p>	<p>IEC 60227-3:1993 + A1:1997 CSV</p>
			<p>PVC-insulated cable (non-armoured) for electric power and supply: - sheathed</p>	<p>MS 2112-4:2009, A1:2015</p>	<p>IEC 60227-4:1992+A1:1997 CSV</p>



## CHAPTER 5A



# LIST OF REGULATED ELECTRICAL EQUIPMENT THAT ARE TO BE TESTED TO THE SPECIFIED MINIMUM ENERGY PERFORMANCE STANDARDS (MEPS)

No	Equipment	Type of Equipment	National Standard	International Equivalent Standard	Efficiency Ratings																								
1	Refrigerator	(a) one-door (b) two-door		National Standard: MS IEC 62552-1:2016 MS IEC 62552-2:2016 MS IEC 62552-3:2016  Equivalent International Standard: IEC 62552-1:2015 IEC 62552-2:2015 IEC 62552-3:2015	<table border="1"> <thead> <tr> <th>Star Rating</th> <th>Star Index Value</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>+ 25 % ≤ Star index</td> </tr> <tr> <td>4</td> <td>+ 10 % ≤ Star index &lt; + 25 %</td> </tr> <tr> <td>3</td> <td>- 10 % ≤ Star index &lt; + 10 %</td> </tr> <tr> <td>2</td> <td>- 25 % ≤ Star index &lt; - 10 %</td> </tr> <tr> <td>1</td> <td>- 35 % ≤ Star index &lt; - 25 %</td> </tr> </tbody> </table> <p>Minimum Star Rating Value is 2</p>	Star Rating	Star Index Value	5	+ 25 % ≤ Star index	4	+ 10 % ≤ Star index < + 25 %	3	- 10 % ≤ Star index < + 10 %	2	- 25 % ≤ Star index < - 10 %	1	- 35 % ≤ Star index < - 25 %												
Star Rating	Star Index Value																												
5	+ 25 % ≤ Star index																												
4	+ 10 % ≤ Star index < + 25 %																												
3	- 10 % ≤ Star index < + 10 %																												
2	- 25 % ≤ Star index < - 10 %																												
1	- 35 % ≤ Star index < - 25 %																												
2	Air Conditioner	Single split wall mounted air conditioner with capacity up to 25,000 btu/hr		National Standard: MS ISO 5151:2012  Equivalent International Standard: ISO 5151:2010  ISO 16358-1:2013 (Calculation Method)	<p><b>Rated Cooling Capacity &lt;4.5kW</b></p> <table border="1"> <thead> <tr> <th>Star Rating</th> <th>Tested CSPF (Wh/Wh)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>5 ≥ 3.0</td> </tr> <tr> <td>4</td> <td>4.60 ≤ CSPF &lt; 5.30</td> </tr> <tr> <td>3</td> <td>3.30 ≤ CSPF &lt; 4.60</td> </tr> <tr> <td>2</td> <td>3.0 ≤ CSPF &lt; 3.30</td> </tr> <tr> <td>1</td> <td>&lt; 3.10</td> </tr> </tbody> </table> <p><b>4.5kW ≤ Rated Cooling Capacity ≤ 7.1kW</b></p> <table border="1"> <thead> <tr> <th>Star Rating</th> <th>Tested CSPF (Wh/Wh)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>≥ 5.10</td> </tr> <tr> <td>4</td> <td>4.00 ≤ CSPF &lt; 5.10</td> </tr> <tr> <td>3</td> <td>3.10 ≤ CSPF &lt; 4.00</td> </tr> <tr> <td>2</td> <td>2.90 ≤ CSPF &lt; 3.10</td> </tr> <tr> <td>1</td> <td>&lt; 2.90</td> </tr> </tbody> </table> <p>Minimum Star Rating Value is 2</p>	Star Rating	Tested CSPF (Wh/Wh)	5	5 ≥ 3.0	4	4.60 ≤ CSPF < 5.30	3	3.30 ≤ CSPF < 4.60	2	3.0 ≤ CSPF < 3.30	1	< 3.10	Star Rating	Tested CSPF (Wh/Wh)	5	≥ 5.10	4	4.00 ≤ CSPF < 5.10	3	3.10 ≤ CSPF < 4.00	2	2.90 ≤ CSPF < 3.10	1	< 2.90
Star Rating	Tested CSPF (Wh/Wh)																												
5	5 ≥ 3.0																												
4	4.60 ≤ CSPF < 5.30																												
3	3.30 ≤ CSPF < 4.60																												
2	3.0 ≤ CSPF < 3.30																												
1	< 3.10																												
Star Rating	Tested CSPF (Wh/Wh)																												
5	≥ 5.10																												
4	4.00 ≤ CSPF < 5.10																												
3	3.10 ≤ CSPF < 4.00																												
2	2.90 ≤ CSPF < 3.10																												
1	< 2.90																												
3	Television	For television size up to or equal to 70 inches and type of television are as following list: (a) Plasma (b) Liquid Crystal Display (LCD) (c) Light Emitting Diode (LED) (d) Cathode Ray Tube (CRT)		Standard: MS IEC National 62301:2012 IEC 62087:2015 MS 2576:2014  Equivalent International Standard: IEC 62301:2011 IEC 62087:2015	<table border="1"> <thead> <tr> <th>Star Rating</th> <th>Star Index Value</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Star index ≥ +20 %</td> </tr> <tr> <td>4</td> <td>+10 % ≤ Star index &lt; +20 %</td> </tr> <tr> <td>3</td> <td>-10 % ≤ Star index &lt; +10 %</td> </tr> <tr> <td>2</td> <td>-20 % ≤ Star index &lt; -10 %</td> </tr> <tr> <td>1</td> <td>-30 % ≤ Star index &lt; -20 %</td> </tr> </tbody> </table> <p>Minimum Star Rating Value is 2</p>	Star Rating	Star Index Value	5	Star index ≥ +20 %	4	+10 % ≤ Star index < +20 %	3	-10 % ≤ Star index < +10 %	2	-20 % ≤ Star index < -10 %	1	-30 % ≤ Star index < -20 %												
Star Rating	Star Index Value																												
5	Star index ≥ +20 %																												
4	+10 % ≤ Star index < +20 %																												
3	-10 % ≤ Star index < +10 %																												
2	-20 % ≤ Star index < -10 %																												
1	-30 % ≤ Star index < -20 %																												

No	Equipment	Type of Equipment	National Standard	International Equivalent Standard	Efficiency Ratings													
4	Domestic Fan	(a) Wall Fan ≤16 inch	MS 1220:2010	N/A	a) Wall fan, Desk fan and Pedestal fan													
		(b) Desk Fan ≤16 inch	MS 2574:2014		<table border="1"> <thead> <tr> <th>Star Rating</th> <th>Tested CSPF (Wh/Wh)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>≥1.20</td> </tr> <tr> <td>4</td> <td>1.12 to 1.19</td> </tr> <tr> <td>3</td> <td>1.08 to 1.11</td> </tr> <tr> <td>2</td> <td>1.01 to 1.07</td> </tr> <tr> <td>1</td> <td>0.93 to 1.00</td> </tr> </tbody> </table>	Star Rating	Tested CSPF (Wh/Wh)	5	≥1.20	4	1.12 to 1.19	3	1.08 to 1.11	2	1.01 to 1.07	1	0.93 to 1.00	
Star Rating	Tested CSPF (Wh/Wh)																	
5	≥1.20																	
4	1.12 to 1.19																	
3	1.08 to 1.11																	
2	1.01 to 1.07																	
1	0.93 to 1.00																	
		(c) Pedestal Fan ≤16 inch																
		(d) Ceiling Fan ≤60 inch			b) Ceiling fan <table border="1"> <thead> <tr> <th>Star Rating</th> <th>Tested CSPF (Wh/Wh)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>≥3.00</td> </tr> <tr> <td>4</td> <td>2.74 to 2.99</td> </tr> <tr> <td>3</td> <td>2.66 to 2.73</td> </tr> <tr> <td>2</td> <td>2.58 to 2.65</td> </tr> <tr> <td>1</td> <td>2.50 to 2.57</td> </tr> </tbody> </table> Minimum Star Rating Value is 2.	Star Rating	Tested CSPF (Wh/Wh)	5	≥3.00	4	2.74 to 2.99	3	2.66 to 2.73	2	2.58 to 2.65	1	2.50 to 2.57	
Star Rating	Tested CSPF (Wh/Wh)																	
5	≥3.00																	
4	2.74 to 2.99																	
3	2.66 to 2.73																	
2	2.58 to 2.65																	
1	2.50 to 2.57																	
5	Lighting	(a) T5 and T8 Double Capped Fluorescent Lamp	MS IEC 60081:2003	IEC 60081:2003	<table border="1"> <thead> <tr> <th>Type</th> <th>Lamp Rating (W)</th> <th>Minimum Efficacy (lm/W)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">T8</td> <td>18 to 30</td> <td>70</td> </tr> <tr> <td>≥31</td> <td>80</td> </tr> <tr> <td rowspan="2">T5</td> <td>14</td> <td>75</td> </tr> <tr> <td>≥15</td> <td>80</td> </tr> </tbody> </table>	Type	Lamp Rating (W)	Minimum Efficacy (lm/W)	T8	18 to 30	70	≥31	80	T5	14	75	≥15	80
		Type	Lamp Rating (W)	Minimum Efficacy (lm/W)														
		T8	18 to 30	70														
≥31	80																	
T5	14	75																
	≥15	80																
	(b) Self ballasted single-capped lamps (Compact Fluorescent Lamps CFL)	MS IEC 60969:2006	IEC 60969:2001	<table border="1"> <thead> <tr> <th>Lamp Rating (W)</th> <th>Minimum Efficacy (lm/W)</th> </tr> </thead> <tbody> <tr> <td>&lt; 9</td> <td>46</td> </tr> <tr> <td>9 to 14</td> <td>52</td> </tr> <tr> <td>15 to 24</td> <td>55</td> </tr> <tr> <td>≥25</td> <td>62</td> </tr> </tbody> </table>	Lamp Rating (W)	Minimum Efficacy (lm/W)	< 9	46	9 to 14	52	15 to 24	55	≥25	62				
Lamp Rating (W)	Minimum Efficacy (lm/W)																	
< 9	46																	
9 to 14	52																	
15 to 24	55																	
≥25	62																	
	(c) Single-capped fluorescent Lamps (Non-Integrated CFL) & circular fluorescent lamp	MS IEC 60901:2003	IEC 60901:1996	<table border="1"> <thead> <tr> <th>Lamp Rating (W)</th> <th>Minimum Efficacy (lm/W)</th> </tr> </thead> <tbody> <tr> <td>&lt; 10</td> <td>46</td> </tr> <tr> <td>10 to 18</td> <td>55</td> </tr> <tr> <td>19 to 26</td> <td>59</td> </tr> <tr> <td>≥27</td> <td>70</td> </tr> </tbody> </table>	Lamp Rating (W)	Minimum Efficacy (lm/W)	< 10	46	10 to 18	55	19 to 26	59	≥27	70				
Lamp Rating (W)	Minimum Efficacy (lm/W)																	
< 10	46																	
10 to 18	55																	
19 to 26	59																	
≥27	70																	

		(d) Self-ballasted Light Emitting Diode (LED) Lamps	MS IEC 62612:2015 MS IEC 60061-1:2005	IEC 62612:2013 IEC 60061-1:2005	<table border="1"> <thead> <tr> <th>Lamp Cap Type (As in MS IEC 60061-1)</th> <th>Minimum Efficacy (lm/W)</th> </tr> </thead> <tbody> <tr> <td>G13</td> <td>75</td> </tr> <tr> <td>GU10</td> <td>50</td> </tr> <tr> <td>E27 or B22d</td> <td>60</td> </tr> <tr> <td>E14</td> <td>60</td> </tr> </tbody> </table>	Lamp Cap Type (As in MS IEC 60061-1)	Minimum Efficacy (lm/W)	G13	75	GU10	50	E27 or B22d	60	E14	60														
Lamp Cap Type (As in MS IEC 60061-1)	Minimum Efficacy (lm/W)																												
G13	75																												
GU10	50																												
E27 or B22d	60																												
E14	60																												
		(e) **Incandescent Lamps	MS IEC 60064:2006	IEC 60064:2006	Minimum Efficacy =20lm/W																								
6	*Washing Machine	a) Top loading washing Machine b) Front Loading Washing Machine	MS IEC 60456: 2012	IEC 60456: 2010	<p>a) Top Loading Washing Machine ≤16kg</p> <table border="1"> <thead> <tr> <th>Star Rating</th> <th>Energy Efficiency Ratio (Wh/kg)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>&lt;6.0</td> </tr> <tr> <td>4</td> <td>6.0 ≤ EER &lt; 10.0</td> </tr> <tr> <td>3</td> <td>10.0 ≤ EER &lt; 17.0</td> </tr> <tr> <td>2</td> <td>17.0 ≤ EER &lt; 22.5</td> </tr> <tr> <td>1</td> <td>≥ 22.5</td> </tr> </tbody> </table> <p>b) Front Loading Washing Machine ≤ 16kg</p> <table border="1"> <thead> <tr> <th>Star Rating</th> <th>Energy Efficiency Ratio (Wh/kg)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>&lt;7.0</td> </tr> <tr> <td>4</td> <td>70.0 ≤ EER &lt; 90.0</td> </tr> <tr> <td>3</td> <td>90.0 ≤ EER &lt; 140.0</td> </tr> <tr> <td>2</td> <td>140.0 ≤ EER &lt; 220.0</td> </tr> <tr> <td>1</td> <td>≥ 220.0</td> </tr> </tbody> </table> <p>Minimum Star Rating Value is 2</p>	Star Rating	Energy Efficiency Ratio (Wh/kg)	5	<6.0	4	6.0 ≤ EER < 10.0	3	10.0 ≤ EER < 17.0	2	17.0 ≤ EER < 22.5	1	≥ 22.5	Star Rating	Energy Efficiency Ratio (Wh/kg)	5	<7.0	4	70.0 ≤ EER < 90.0	3	90.0 ≤ EER < 140.0	2	140.0 ≤ EER < 220.0	1	≥ 220.0
Star Rating	Energy Efficiency Ratio (Wh/kg)																												
5	<6.0																												
4	6.0 ≤ EER < 10.0																												
3	10.0 ≤ EER < 17.0																												
2	17.0 ≤ EER < 22.5																												
1	≥ 22.5																												
Star Rating	Energy Efficiency Ratio (Wh/kg)																												
5	<7.0																												
4	70.0 ≤ EER < 90.0																												
3	90.0 ≤ EER < 140.0																												
2	140.0 ≤ EER < 220.0																												
1	≥ 220.0																												

**\*MEPS for washing Machine will be effective on 1<sup>st</sup> September 2018.**

\*\*The Minimum Energy Performance Standards (MEPS) value for incandescent lamp shall not apply for the following use:

- components in electrical appliances;
- medical and lab equipment;
- internal decoration, shows and exhibition;
- safety and signaling;
- conservation of animals and as repellent for insects;
- heating and testing;
- cleanliness and health;
- beauty treatment;
- lamps that cannot be directly replaced with other type of lamp; and
- incandescent lamp for other purposes deemed suitable by the Commission to be excluded.



## CHAPTER 6





# APPLICATION FOR CERTIFICATE OF APPROVAL (CoA) FOR ELECTRICAL EQUIPMENT

## ELECTRICAL EQUIPMENT

In improving its delivery services, the Energy Commission (ST) has developed an online system for application of Certificate of Approval (CoA) for the importation and manufacture of household electrical equipment. Effective 1st October 2010, all applications are done online via e-Permit system operated by DagangNet Technologies Sdn. Bhd. (DagangNet).

To import household electrical equipment, applicants or their local agents need to register with DagangNet. Once registered, applicants can proceed to apply electronically. Applicants are required to apply for the Certificate of Registration to Manufacture/Import before he can proceed with the Certificate of Approval (CoA) application. ST will issue the CoA if applications are in order (test report and all required documents submitted and fees paid to ST).

e-Permit is available at <http://epermit.dagangnet.com> as follows:-

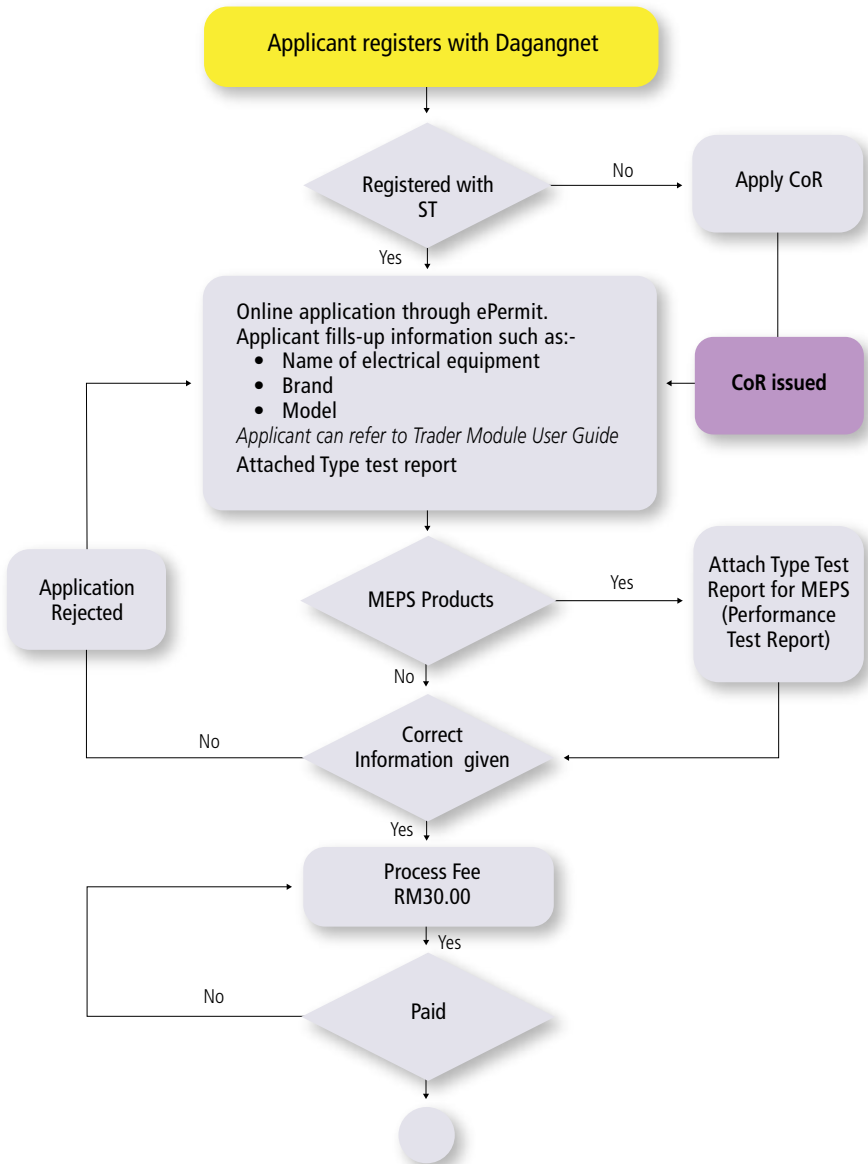


E-Permit screen

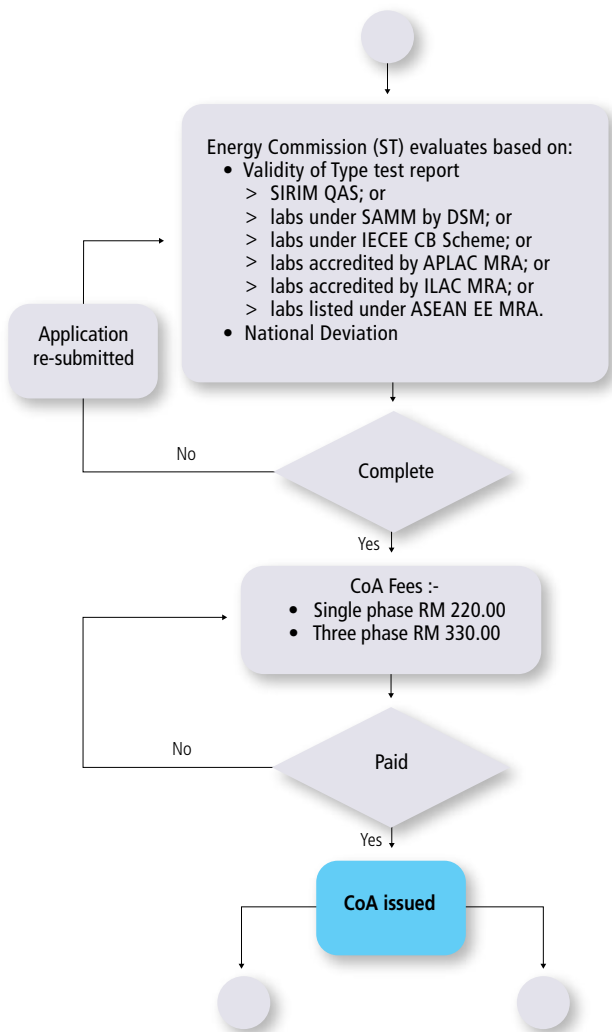
The process of CoAs application is as shown in the following flow-chart:-

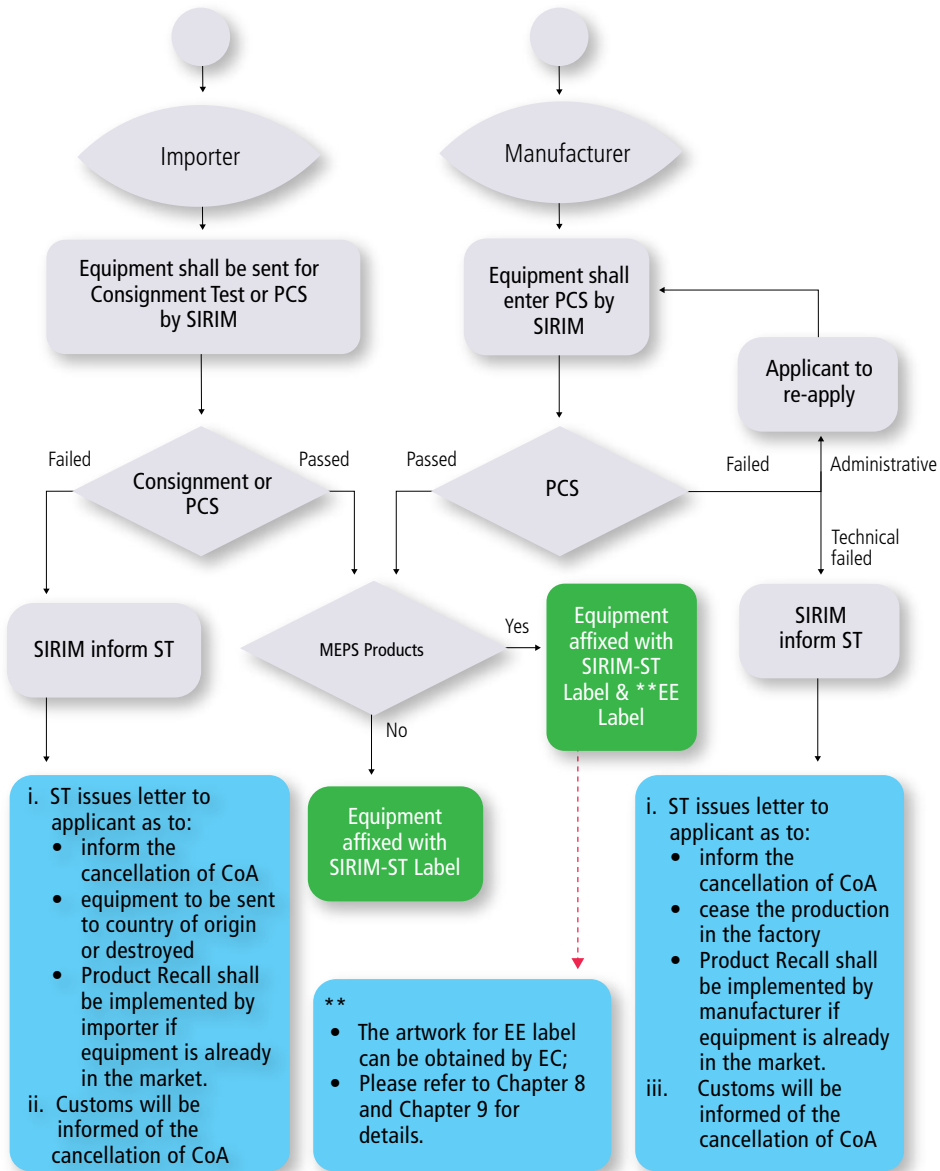


## 6.1 NEW Application for CoA (Import/Manufacturer)



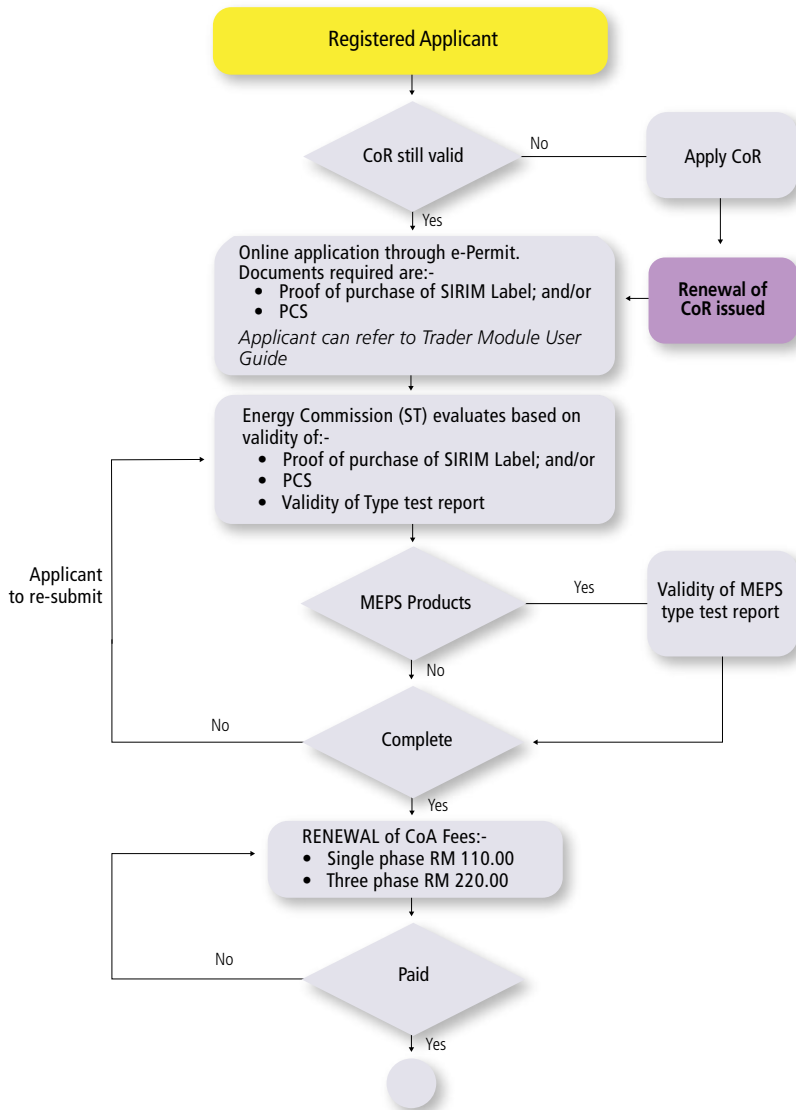
CoR = Certificate of Registration to Manufacture/Import (see **Appendix A**)



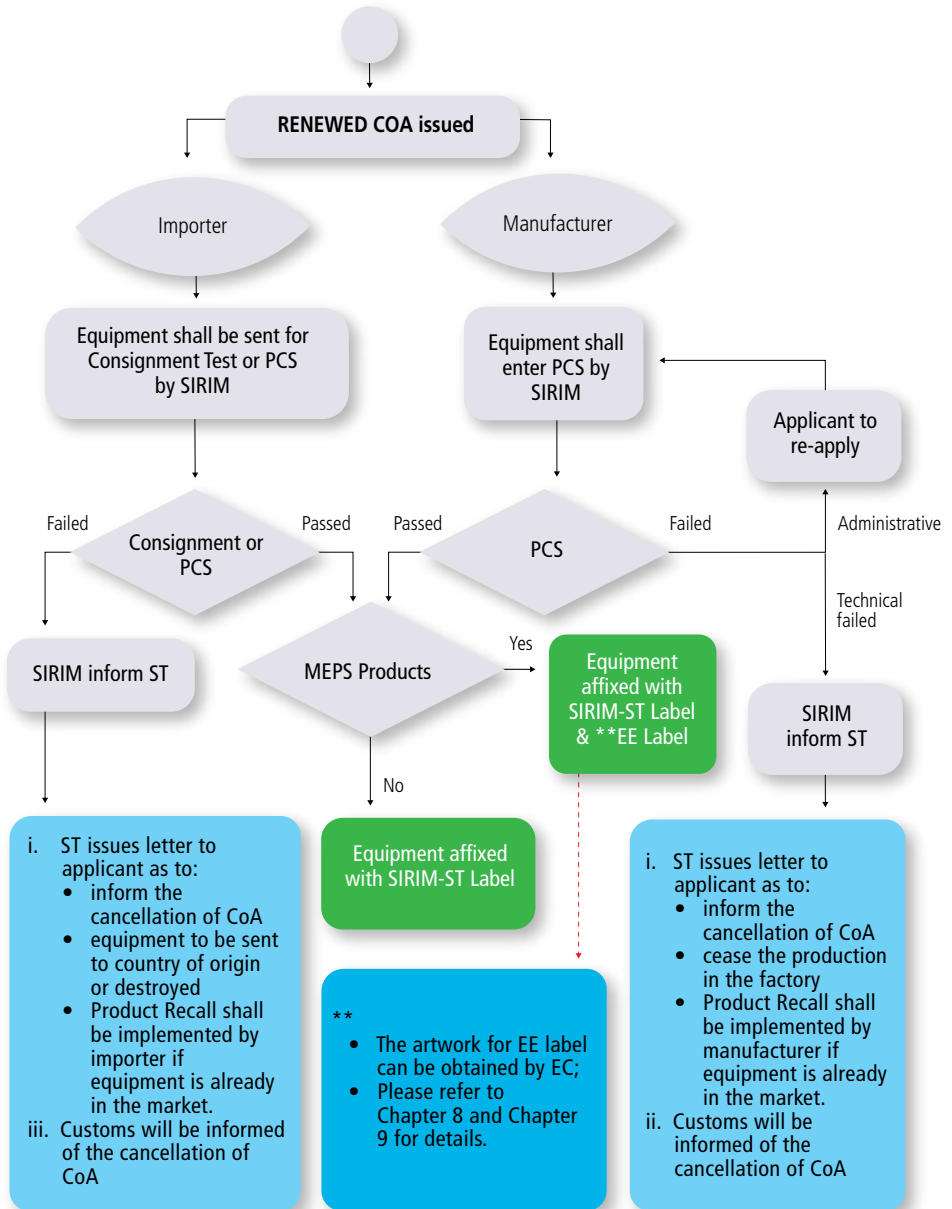


\*Please refer details explanation in Appendix B

## 6.2 RENEWAL Application for CoA (Import/Manufacturer)

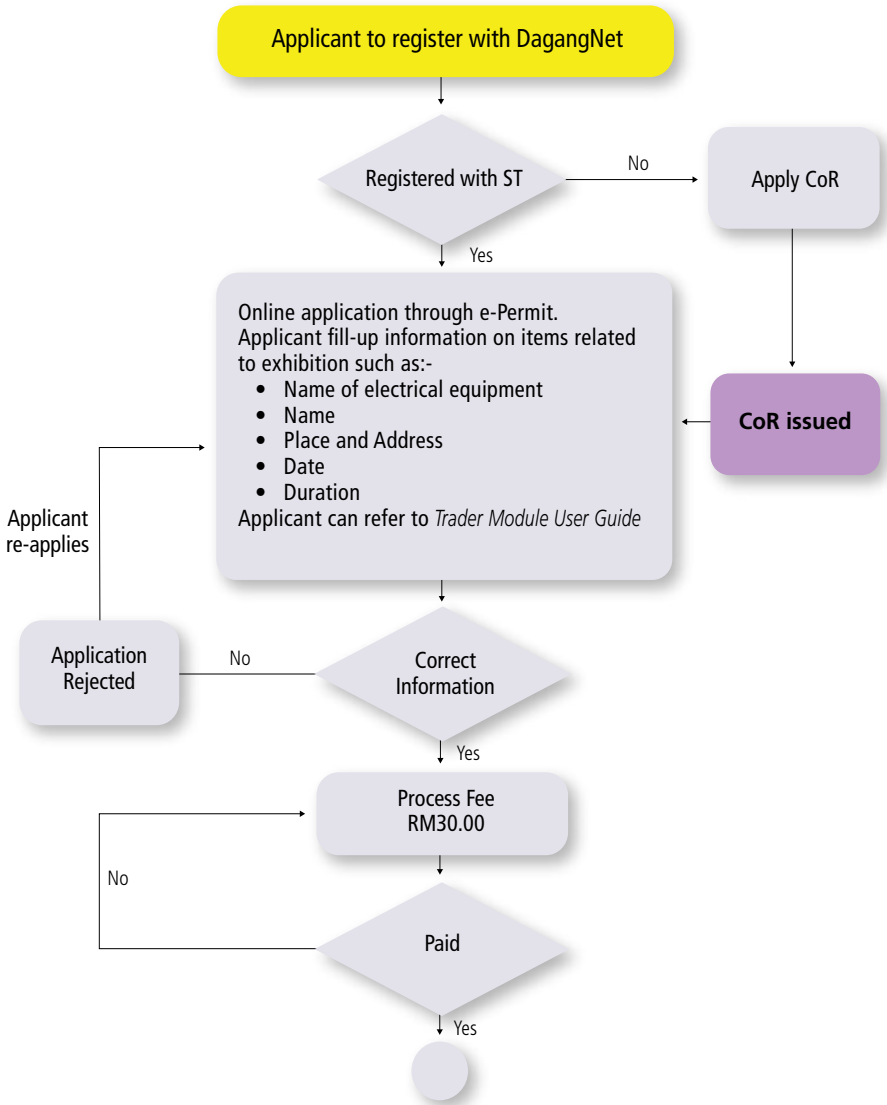


CoR = Certificate of Registration to Manufacture/Import (see Appendix A)

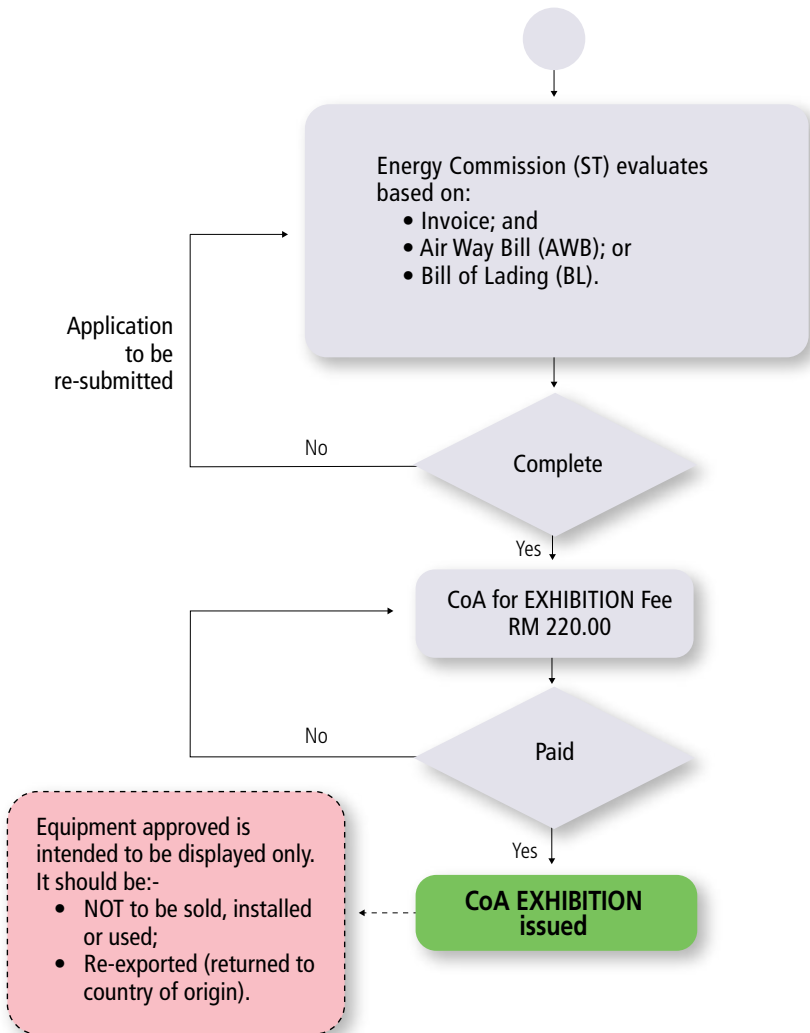


\*Please refer details explanation in **Appendix C**

### 6.3 Application for CoA for EXHIBITION purposes



CoR = Certificate of Registration to Manufacture/Importer (see **Appendix A**)



\*Please refer details explanation in **Appendix D**

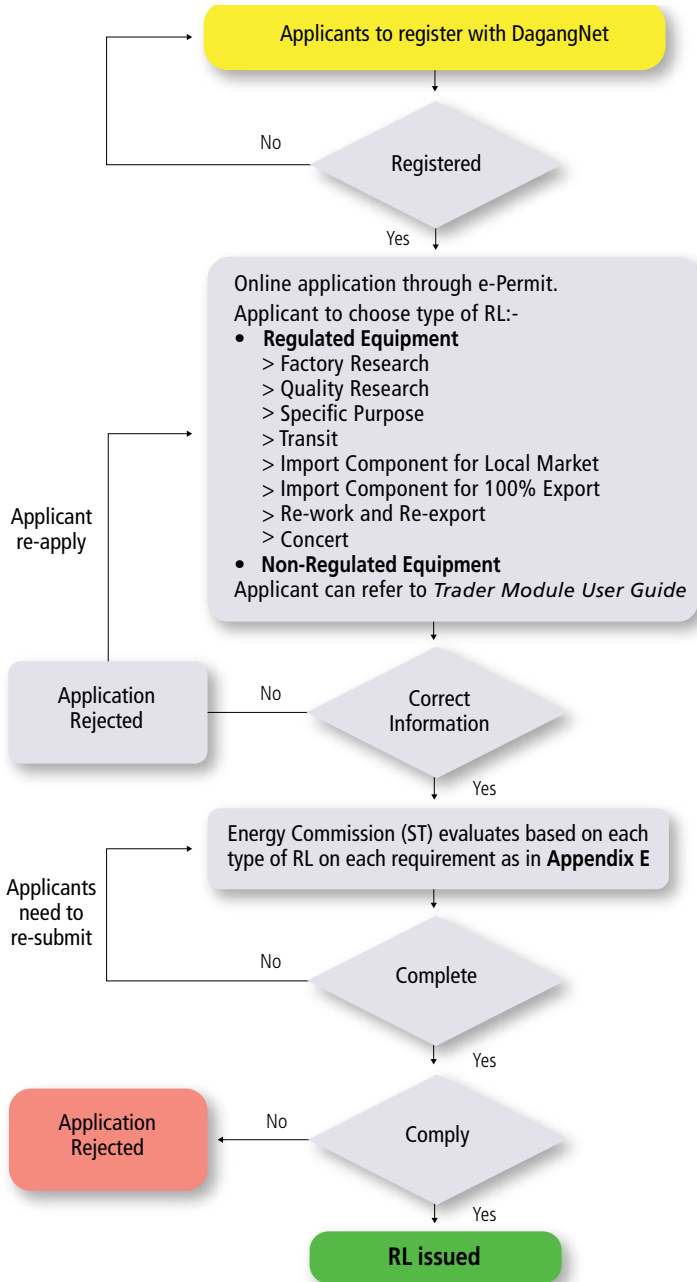


# CHAPTER 7





## APPLICATION FOR RELEASE LETTER (RL)



\*Please refer details explanation in Appendix E


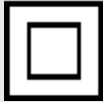


## C HAPTER 8



# REGULATORY REQUIREMENTS RELATED TO NATIONAL DIFFERENCES

No	Items	Requirements																																																					
1	Nominal Voltages and Frequency	<p>a) Nominal Voltage Effective 1st Jan 2008, nominal voltage for low voltage supply in Malaysia is 230/400V (+10%, -6%) in accordance with MS IEC 60038. The details of voltages and variations are as below:-</p> <table border="1" data-bbox="370 339 1005 442"> <thead> <tr> <th></th> <th>Nominal Voltage (V)</th> <th colspan="2">Percentage of Variations (%)</th> <th colspan="2">Voltage Variations (V)</th> </tr> <tr> <th></th> <th></th> <th>+</th> <th>-</th> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr> <td colspan="6" data-bbox="370 459 1005 486">Until 31/12/2007</td> </tr> <tr> <td data-bbox="370 491 477 576">Single phase, 1 Ø</td> <td data-bbox="477 491 583 576">240</td> <td data-bbox="583 491 661 576">5</td> <td data-bbox="661 491 799 576">10</td> <td data-bbox="799 491 899 576">226</td> <td data-bbox="899 491 1005 576">252</td> </tr> <tr> <td data-bbox="370 580 477 665">Three phase, 3 Ø</td> <td data-bbox="477 580 583 665">415</td> <td data-bbox="583 580 661 665">5</td> <td data-bbox="661 580 799 665">10</td> <td data-bbox="799 580 899 665">373.5</td> <td data-bbox="899 580 1005 665">436</td> </tr> <tr> <td colspan="6" data-bbox="370 683 1005 710">Commencing on 1/1/2008</td> </tr> <tr> <td data-bbox="370 715 477 799">Single phase, 1 Ø</td> <td data-bbox="477 715 583 799">230</td> <td data-bbox="583 715 661 799">10</td> <td data-bbox="661 715 799 799">6</td> <td data-bbox="799 715 899 799">216</td> <td data-bbox="899 715 1005 799">253</td> </tr> <tr> <td data-bbox="370 804 477 888">Three phase, 3 Ø</td> <td data-bbox="477 804 583 888">400</td> <td data-bbox="583 804 661 888">10</td> <td data-bbox="661 804 799 888">6</td> <td data-bbox="799 804 899 888">376</td> <td data-bbox="899 804 1005 888">440</td> </tr> </tbody> </table> <p>b) Nominal Frequency Nominal frequency for low voltage supply voltage in Malaysia is allowed to fluctuate at <math>\pm 1\%</math> from 50Hz.</p>							Nominal Voltage (V)	Percentage of Variations (%)		Voltage Variations (V)				+	-	Min.	Max.	Until 31/12/2007						Single phase, 1 Ø	240	5	10	226	252	Three phase, 3 Ø	415	5	10	373.5	436	Commencing on 1/1/2008						Single phase, 1 Ø	230	10	6	216	253	Three phase, 3 Ø	400	10	6	376	440
	Nominal Voltage (V)	Percentage of Variations (%)		Voltage Variations (V)																																																			
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Single phase, 1 Ø	230	10	6	216	253																																																		
Three phase, 3 Ø	400	10	6	376	440																																																		
2	Voltages and Frequency Marking for Regulated Equipment	<p>In line with (a) above, the electrical equipment to be used in Malaysia shall be designed to operate at the country's nominal voltage and frequency as follows:</p> <p>a) Voltage Single-phase equipment shall be rated / marked at 230V or 240V. If the equipment is rated with multiple or a range of voltages, voltage range of 230V (+10%, -6%) shall be included.</p> <p>Three-phase equipment shall be rated/ marked at 400V or 415V. If the equipment is rated with multiple or a range of voltages, voltage range of 400V (+10%, -6%) shall be included.</p> <p>b) Frequency Product shall be rated / marked at 50Hz and testing shall be conducted at 50Hz (<math>\pm 1\%</math>). If the product is marked with 50/60Hz or 50-60Hz then testing shall be conducted either at 50Hz or 60Hz, whichever is more unfavourable.</p>																																																					

3	Testing Voltage and Frequency on Electrical Equipment	<p><u>Type Test Report for Equipment</u> The test shall be conducted by the Conformity Assessment Body (CAB) at voltage variations as in the table below:</p> <table border="1" data-bbox="361 201 990 352"> <tr> <td>Single phase,1Ø – 240V ± 6%</td> <td>:</td> <td>(225.6 – 254.4) V</td> </tr> <tr> <td>Three phase,3Ø – 415V ± 6%</td> <td>:</td> <td>(390.1 – 439.9) V</td> </tr> <tr> <td>Single phase,1Ø – 230V ± 10%</td> <td>:</td> <td>(207 – 253) V</td> </tr> <tr> <td>Three phase,3Ø – 400V ± 10%</td> <td>:</td> <td>(360 – 440) V</td> </tr> </table> <p>a) Voltage <u>Single-phase equipment</u> Testing shall be conducted based on 230V(+10%,-10%) or 240V(+6%,-6%) and other relevant voltages, whenever the equipment is marked with multiple or a range of voltages.</p> <p><u>Three-phase equipment</u> Testing shall be conducted based on 400V(+10%,-10%) or 415V(+6%,-6%), and other relevant voltages, whenever the equipment is marked with multiple or a range of voltages.</p> <p>b) Frequency Testing shall be conducted either at 50Hz or 60Hz, whichever is more unfavourable.</p>	Single phase,1Ø – 240V ± 6%	:	(225.6 – 254.4) V	Three phase,3Ø – 415V ± 6%	:	(390.1 – 439.9) V	Single phase,1Ø – 230V ± 10%	:	(207 – 253) V	Three phase,3Ø – 400V ± 10%	:	(360 – 440) V
Single phase,1Ø – 240V ± 6%	:	(225.6 – 254.4) V												
Three phase,3Ø – 415V ± 6%	:	(390.1 – 439.9) V												
Single phase,1Ø – 230V ± 10%	:	(207 – 253) V												
Three phase,3Ø – 400V ± 10%	:	(360 – 440) V												
4	Power supply cord and main plug requirements	<p>Appliances shall be fitted with a suitable and appropriately approved power supply cord and mains plug. Both are regulated equipment and must be approved by the regulatory body before it can be used with the appliances.</p> <p>a) The Power Supply Cord shall be certified to:-</p> <ul style="list-style-type: none"> <li>• MS2112-5 or BS EN 50525-2-11 or IEC 60227-5 (PVC insulated - flexible cables/cords);or</li> <li>• or MS 2127-4 or IEC 60245-1 &amp; IEC 60245-4 (Rubber insulated - flexible cables/cords)</li> </ul> <p>b) The mains Plug to be used in Malaysia shall be as follows:</p> <ul style="list-style-type: none"> <li>• 13A fused plug complying with MS 589-1 or BS 1363:PT.1;</li> <li>• 15A plugs complying with MS 1577;</li> <li>• 2.5A, 250V, flat non-rewireable two-pole plug with cord for the connection of class II equipment comply with MS 1578 or BS EN 50075.</li> </ul>												
5	Class I and Class II Equipment	<p>Only Class I with symbol as in Figure 1 and Class II with symbol as in Figure 2 are allowed to be used in Malaysia.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Figure 1 : Class I</p> </div> <div style="text-align: center;">  <p>Figure 2 : Class II</p> </div> </div> <p>Class 0 and Class 01 appliances as defined in MS IEC 60335 series or IEC 60335 series are NOT ALLOWED to be used in Malaysia.</p>												

No	Items	Requirements																		
6	Regulated Energy Efficiency (EE) Fans for performance	<p>a) Regulated minimum energy efficiency standards for electrical fans namely fans, wall fans, table fans, pedestal fans and box fans which use blades are as follows:</p> <table border="1" data-bbox="381 268 992 711"> <thead> <tr> <th data-bbox="381 268 463 427">No</th> <th data-bbox="463 268 815 427">Type of fans</th> <th data-bbox="815 268 992 427">Minimum Co-efficient of performance (COP) (m3/min/W)</th> </tr> </thead> <tbody> <tr> <td data-bbox="381 427 463 491">1.</td> <td data-bbox="463 427 815 491">Ceiling Fan (1200 mm /48 inch – 1500 mm / 60 inch)</td> <td data-bbox="815 427 992 491">2.58</td> </tr> <tr> <td data-bbox="381 491 463 539">2.</td> <td data-bbox="463 491 815 539">Pedestal Fan (250 mm /10 inch – 400 mm / 16 inch)</td> <td data-bbox="815 491 992 539">1.01</td> </tr> <tr> <td data-bbox="381 539 463 587">3.</td> <td data-bbox="463 539 815 587">Table / Desk Fan (250 mm / 10 inch – 400 mm /16 inch)</td> <td data-bbox="815 539 992 587">1.01</td> </tr> <tr> <td data-bbox="381 587 463 651">4.</td> <td data-bbox="463 587 815 651">Wall Fan (250 mm / 10 inch– 400 mm / 16 inch)</td> <td data-bbox="815 587 992 651">1.01</td> </tr> <tr> <td data-bbox="381 651 463 711">5.</td> <td data-bbox="463 651 815 711">Box Fan (250 mm / 10 inch– 350 mm / 14 inch )</td> <td data-bbox="815 651 992 711">0.5</td> </tr> </tbody> </table> <p>Where, <math>COP = \frac{\text{Air Delivery (m3/min)}}{\text{Input Wattage (W)}}</math></p> <p><i>The test method used to determine COP is in accordance with MS 1220:2010 or IEC 60879:1986 with modification.</i></p> <p>The acceptable value of COP must be at least or above the stated value shown.</p> <p><i>Note: Value of COP for No.1,2,3 &amp; 4 are included in the MEPS requirements</i></p> <p>b) Suspension System for Electric Ceiling Fans.</p> <p>Electric ceiling fans must be provided with a special wire as a secondary suspension system. The test method used to check that the secondary suspension system of the electric ceiling fan has adequate mechanical strength is in accordance with MS 1597: Part 2-80 or IEC 60335-2-80 with modification for ceiling fan only.</p>	No	Type of fans	Minimum Co-efficient of performance (COP) (m3/min/W)	1.	Ceiling Fan (1200 mm /48 inch – 1500 mm / 60 inch)	2.58	2.	Pedestal Fan (250 mm /10 inch – 400 mm / 16 inch)	1.01	3.	Table / Desk Fan (250 mm / 10 inch – 400 mm /16 inch)	1.01	4.	Wall Fan (250 mm / 10 inch– 400 mm / 16 inch)	1.01	5.	Box Fan (250 mm / 10 inch– 350 mm / 14 inch )	0.5
No	Type of fans	Minimum Co-efficient of performance (COP) (m3/min/W)																		
1.	Ceiling Fan (1200 mm /48 inch – 1500 mm / 60 inch)	2.58																		
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3.	Table / Desk Fan (250 mm / 10 inch – 400 mm /16 inch)	1.01																		
4.	Wall Fan (250 mm / 10 inch– 400 mm / 16 inch)	1.01																		
5.	Box Fan (250 mm / 10 inch– 350 mm / 14 inch )	0.5																		

7 a) Component used for Fluorescent Lamp Fitting

Standards for Fluorescent Lamp Fitting are MS IEC 60598-2-1 or IEC 60598-2-1 (for fixed luminaries) and MS IEC 60598-2-2 or IEC 60598-2-2 (for recessed luminaries). Components such as glow starter, starter holder, lamp holder, capacitor, connecting device, ballast and internal wiring are used as part of the fitting. Thus, the components used for both standards mentioned shall comply to the following standards:

Components	Standards
Glow-Starters	MS IEC 60155 or IEC 60155
Starterholder	MS IEC 60400 or IEC 60400
Lampholders	MS IEC 60400 or IEC 60400
Capacitors	MS IEC 61048 or IEC 61048 & MS IEC 61049 or IEC 61049
Connecting devices	MS IEC 60998 (Series) or IEC 60998 (Series)
Magnetic/conventional Ballast	<p>Safety test: MS IEC 61347-1 or IEC 61347-1 + MS IEC 61347-2-8 or IEC 61347-2-8 and</p> <p>Performance test: MS IEC 141 PT.2 or IEC 60921 with modification</p> <p>Note : <i>Ballast Watt Loss shall not be more than 6W for all fluorescent lamps ballast.</i></p>
Electronic Ballast	<p>Safety test: MS IEC 61347-1 or IEC 61347-1 + MS IEC 61347-2-3 or IEC 61347-2-3 and</p> <p>Performance test: MS IEC 60929 with MS IEC 61000-3-2 or IEC 60929 with IEC 61000-3-2</p>
Internal Wiring	<p>MS 2112-3 or IEC 60227-3, MS 2112-4 or IEC 60227-4</p> <p>The insulating material of internal wiring must be capable of withstanding the maximum temperature to which it is subjected (heat resistance).</p>

b) Component used for LED Lamp Fitting

Standards for LED Lamp Fitting are MS IEC 60598-2-1 or IEC 60598-2-1 (for fixed luminaries), MS IEC 60598-2-2 or IEC 60598-2-2 (for recessed luminaries), MS IEC 60598-2-4 or IEC 60598-2-4 (Portable LED Lamp), MS IEC 60598-2-12 or IEC 60598-2-12 (LED Night Lamp) and MS IEC 60598-2-8 or IEC 60598-2-8 (LED hand lamp). Components such as driver, module, lampholder, connecting device and internal wiring are used as part of the fitting. Thus, the components used for above standards mentioned shall comply to the following standards:

Components	Standards
Driver	MS IEC 61347-1 and MS IEC 61347-2-13
Module / Lamp	MS IEC 62031 or MS IEC 62776 or MS IEC 62560  <i>*to meet the requirement of LED photobio safety class of exempt group according to MS IEC 62741 or IEC 62741</i>
Lampholders	MS IEC 60400 and MS IEC 602380
Connecting Devices	MS IEC 60838-1 and MS IEC 60838-2-2 or IEC 61984
Internal Wiring	MS 2112-3 or IEC 60227-3, MS 2112-4 or IEC 60227-4

8. Manufacturing requirements

a) Manufactured regulated equipment shall participate in Product Certification Scheme (PCS) by SIRIM and electrical equipment shall be affixed with label issued by SIRIM or bear SIRIM Certification Mark (under Label Licensing Programme). The sample of SIRIM label and SIRIM Certification Mark can be referred in Chapter 9.

b) Manufacturers of products such as television, refrigerator, domestic fan and air conditioner, must also affix the Energy Efficiency Label onto the products before it can be sold to the customer. The sample of Energy Efficiency (EE) label is shown in Figure 6 in Chapter 9.

9. Importing requirements

a) Imported regulated electrical equipment shall undergo Consignment Test conducted by SIRIM or participate in Product Certification Scheme (PCS) by SIRIM.

Electrical equipment which passes the Consignment Test shall be affixed with the labels issued by SIRIM. The sample of SIRIM label can be referred in Chapter 9.

Electrical equipment which fails the Consignment Test need to be sent to the country of origin or shall be destroyed.

		<p>Electrical equipment shall be constructed to be used with power supply cord and power plug which comply with Malaysia's requirements and standards.</p> <p>The requirements and standards of Power supply cord and power plug are stated as in item No.4 above.</p> <p>b) Importers of products such as television, refrigerator, domestic fan and air conditioner, must also affix the Energy Efficiency Label onto the products before it can be sold to the customer. The samples of Energy Efficiency (EE) label are shown in Figure 6 in Chapter 9.</p>
10.	Climate Conditions	Apparatus to be used in Malaysia shall be subjected to tests under tropical conditions as specified in the related standards.
11.	Requirements for MEPS	To meet the requirements of the MEPS, the performance criteria when tested using the relevant testing standards has to be met. The testing standards and performance criteria have been set as prescribed in Chapter 5A.
12.	Requirement for LED Luminaires	To meet the requirements of the LED Photobiological Safety Class of Exempt Group according to standard MS IEC 62471 or IEC 62471.





## CHAPTER 9



# LABELLING OR CERTIFICATION MARK

## A. Objective and rationale

Labeling or marking of regulated electrical equipment will enable consumers to differentiate between the approved and non-approved regulated electrical equipment. It also serves as a deterrent and a means to check for non-approved regulated electrical equipment in the market.

## B. Labeling or Marking

All regulated electrical equipment approved by the Commission must be labeled or marked in accordance with regulation 98 of the Electricity Regulations 1994 and shall be done in the manner which has been determined by the Commission as below:

### i) Sticker Type

There are two types of SIRIM-ST label which shall be affixed on the equipment.

#### a) SIRIM-ST label (BATCH)

Importer who has passed Consignment Test shall purchase SIRIM-ST label and affix on each of equipment. The Word BATCH printed on the label shows that the imported equipment gone through BATCH Consignment Test. Sample of the label is as shown below:



New SIRIM-ST Label  
(effective 01-01-2015)



Old SIRIM-ST Label

Figure 3: SIRIM-ST label for Imported

#### b) SIRIM-ST label

Local manufacturer and importer who have entered PCS shall purchase SIRIM-ST label and affix on each equipment. Sample of the label is as shown below:



New SIRIM-ST Label  
(effective 01-01-2015)



Old SIRIM-ST Label

Figure 4: SIRIM-ST label for Locally Manufactured and Imported Equipment

## ii) Embossed Type

- a) For manufacturer or importer which participated in SIRIM-ST Label Licensing Programmed, they may use the SIRIM Certification Mark as shown in Figure 5 below.



SIRIM  
CERTIFIED TO YY : XXXX  
CERTIFICATION NO: xxxxxxxx  
SIRIM-ST Label Licensing Programme

**Figure 5:** SIRIM Certification Mark

- b) For small regulated electrical equipment such as lampholder, starter-holder, glow starter and cable, SIRIM Certification Mark shall be emboss in their products.

The manufacturer, importer, exhibitor, seller or advertiser is responsible to ensure that the regulated electrical equipment is affixed with appropriate label or SIRIM Certification Mark whichever is applicable. The Commission will conduct surveillance/enforcement from time to time on manufacturers' or importers' premises and distributors' outlets.

### **C. Where to affix SIRIM-ST label or SIRIM Certification Mark**

The SIRIM-ST label or SIRIM Certification Mark shall be affixed on the regulated electrical equipment itself in a legible manner. The SIRIM-ST label shall not be affixed on the packaging.

### **D. Requirement for Energy Efficiency (MEPS) Labelling**

Products such as television, refrigerator, domestic fan and air conditioner are required to affix with Energy Efficiency label before it can be sold to the consumer. The label as in the energy efficiency labeling guideline shall be followed in accordance to the following specification as shown in Figure 6 below:-

- (i) Font Specification
- (ii) Colour Specification
- (iii) 2-Star rating until 5-Star rating

---

<sup>1</sup> Details emboss on cable are SIRIM Cert. Mark/labs, standards, size of cable, manufacture's company.

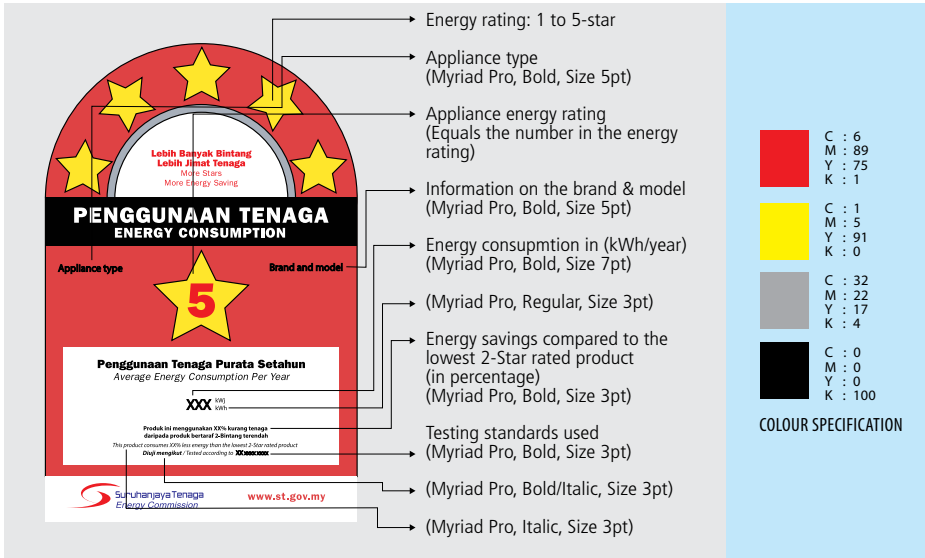


Figure 6: Energy Efficiency Labelling Guideline

## D1. Size of EE label and requirement to display on the product

Manufacturer and Importer that have obtain COA required to print out the EE label by referring to Energy Commission guidelines. EE Labelling guidelines for MEPS products are as below:-

### a) Air Conditioner

- Size for air conditioners energy efficiency label is 9 cm (width) X 13.5 cm (height).
- Calculation guideline shown as below:-

#### Annual Energy Consumption Calculation Guideline:

**A** = Annual Energy Consumption (kWh)

$$A \text{ (kWh)} = \frac{\text{CSEC (kWh)}}{1817 \text{ hours}} \times 4380 \text{ hours} *$$

Where

CSEC = Cooling Seasonal Energy Consumption (From Test Report)

\*Operating hours per year = 12 hours per day x 365 day = 4380 hours

#### Percentage Energy Saving Compared to Lowest 2-Star Rating Compared Calculation Guideline:

**B** = Annual energy consumption (kwh) for lowest 2 - Star rating model

$$B \text{ (kWh)} = 100\% - \left(100 \times \frac{\text{CSPF}_{\text{Lowest 2-Star}}}{\text{CSPF}_{\text{Measured}}}\right)$$

Where

CSPF<sub>Lowest 2-Star</sub> = 3.1 for rated cooling capacity <4.5kW

CSPF<sub>Lowest 2-Star</sub> = 2.9 for rated cooling capacity 4.5W to 7.1kW

CSPF<sub>Measured</sub> = Obtained from test report



### b) Domestic Fan

- Size for fan's energy efficiency label is 4 cm (width) X 6 cm (height).
- Calculation guideline shown as below :-

#### Annual Energy Consumption Calculation Guideline:

**A** = Annual energy consumption (kwh)

**A** = 365 x 8 x Power input measured from test report (kW)

#### Percentage Energy Saving Compared to Lowest 2-Star Rating Compared Calculation Guideline:

**B** = Annual energy consumption (kwh) for lowest 2-Star rating model

For Ceiling Fan :

$$\mathbf{B} = 365 \times 8 \times \frac{\text{Tested air delivery capacity (m}^3\text{/min) from test r}}{2.58}$$

$$\frac{\quad}{1000}$$

For Pedestal, Wall & Desk Fan :

$$\mathbf{B} = 365 \times 8 \times \frac{\text{Tested air delivery capacity (m}^3\text{/min) from test r}}{1.01}$$

$$\frac{\quad}{1000}$$

Percentage of energy saving compared to the lowest 2- Stars rating model

$$= 100\% - (100 \times \frac{A}{B})$$

Label affixed



### c) Refrigerator

- Size for refrigerator's energy efficiency label is 8 cm (width) X 12 cm (height).
- Calculation guidelines shown as below:-

### Annual Energy Consumption Calculation Guideline:

- A** = Annual Energy Consumption (kwh)
- A** =  $E_{\text{Total}}$  (Obtained From the Test Report)

### Percentage Energy Saving Compared to Lowest 2-Star Rating Compared Calculation Guideline:

Percentage of Energy Saving Compared to Lowest 2-Star

$$= 100\% - \left( \frac{EEF_{\text{Lowest 2-Star}}}{EEF_{\text{Tested}}} \times 100 \right)$$

Where

$$EEF_{\text{Lowest 2-Star}} = 0.7593V_{\text{adjusted}} + 54.459 \text{ (1-Door)}$$

$$EEF_{\text{Lowest 2-Star}} = 0.4802V_{\text{adjusted}} + 48.338 \text{ (2-Door)}$$

$EEF_{\text{Tested}}$  can be obtained from the report



### d) Television

- Size for television's energy efficiency label is 7cm (width) X 11 cm (height).
- Calculation guidelines shown as below:-

### Annual Energy Consumption Calculation Guideline:

**A** = Annual energy consumption (kwh) from test report

### Percentage Energy Saving Compared to Lowest 2-Star Rating Compared Calculation Guideline:

Percentage of energy saving compared to the lowest 2-Stars model

$$= 100\% - \left( 100 \times \frac{0.0016 \times (\text{Screen Area, cm}^2) + 8.8}{EEF_{\text{Tested}}} \right)$$

Where  $EEF_{\text{Tested}}$  can be obtained from the test report.



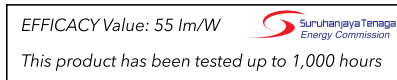
### e) Lighting

- Declared efficacy value (lumen/watt) of the lamp and testing hours that has been conducted must be stated at packaging of the individual product.
- For Light Emitting Diode (LED) Lamps:-
  - 1) The Lumens maintenance test will be carried out every 1,000 hours until the completion of 6,000 hours. An interim report will be issued after completing the first 1,000 hours. The interim report can be used for CoA application. The test will be continued to complete the 6,000 hours. A final full test report will then be issued to supersede the interim report. This procedure will only apply to the products tested according to MS 62612 (P) standard in local labs accredited by Standards

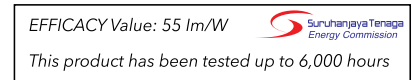
Malaysia i.e SIRIM QAS International Sdn Bhd and QAV Technologies Sdn Bhd. For LED lamps tested according to IEC 62612 in overseas accredited labs, only full test reports will be accepted for COA application.

2) Once the CoA has been issued, the applicant is required to state the Efficacy value onto the packaging of the product together with the number of hours the LED has been tested as per example below :-

i) After completing first 1,000 hours test



ii) After completing first 6,000 hours test



3) If the product fails after the first 1,000 hours before completing the 6,000 hours, the testing body is required to inform Energy Commission of such failure. The Energy Commission will then not approve the application for the renewal of the CoA.

\* For more details please refer to Guideline for Obtaining The Certificate Of Approval (COA) for LED Lamps Under Minimum Energy Performance Standards (MEPS) in Energy Commission website.

### f) Washing Machine

MEPS for washing Machine will be implemented on 1st September 2018.

- Size for washing machine energy efficiency label is 8 cm (width) X 12 cm (height).
- Calculation guideline shown as below:-

#### Annual Energy Consumption Calculation Guideline:

$$A = \text{Annual energy consumption (kwh)} \\ = 365 \times \text{Energy Consumption from test report (kwh)}$$

#### Percentage Energy Saving Compared to Lowest 2-Star Rating Compared Calculation Guideline:

B = Annual energy consumption (kwh) for lowest 2 - Star rating model

$$B = \frac{365 \times \text{EER of lowest 2 Star} \times \text{Rated capacity}}{1000}$$

Where

EER lowest 2 - Star = 22.5 Wh/kg for top loading washing machine

EER lowest 2 - Star = 220.0 Wh/kg for front loading washing machine

% energy saving compared to the lowest 2 stars rating model

$$= 100\% - \left(100 \times \frac{A}{B}\right)$$



Label affixed



Label affixed





# **Appendixes**





# Appendix A

# APPLICATION FOR CERTIFICATE OF REGISTRATION (CoR) TO MANUFACTURE / IMPORT

## A. Application Procedure

- 1) Applicants who require applying for Certificate of Approval (CoA) shall register as registered manufacturer/importer with the Energy Commission.
- 2) Applicant has to ensure their registration as registered manufacturer/importer is valid prior to apply for CoA.
- 3) Registration can be made through e-DIK system <http://edik.st.gov.my>. The Energy Commission will issue the successful applicant with a Certificate of Registration (CoR) to Manufacture/Import.
- 4) A CoR shall be valid for not less than 1 year and not exceeding 5 years from the date of issue or renewal.
- 5) Renewal of CoR shall be made within one (1) month before the expiry date and not less than 14 days before the expiry date.
- 6) Application for Renewal of CoR received less than 14 days before the expiry date will automatically be rejected. In this case applicant needs to apply for a new CoR.
- 7) Registered manufacturer/importer will be issued with Form V1 Certificate of Registration to Manufacture/Import as in **Appendix F**.

## B. Documents Required

Documents required for Certificate of Registration to manufacture and import are as follows:

- (i) Business Registration with Companies Commission of Malaysia (under Business Registration Act)
  - Certificate of Business Registration (Form D)
  - Others Business Information

or

Company Incorporation with Companies Commission of Malaysia (under Companies Act)

- Form 9 / Form Section 17
  - Form 44 / Form Section 46(3)
  - Form 49 or latest Form of Annual Return of a Company / Form Section 14 / Form Section 68 / Form Section 58
  - Form 24 / Form Section 51 / Form Section 78
- (ii) Warehouse Tenancy Agreement
  - (iii) Business License from Local Authority (i.e. Dewan Bandaraya Kuala Lumpur)
  - (iv) Photo of the premise showing the business signboard
  - (v) any other information/document as the Commission deems necessary

## C. Annual Fee

No Fee Imposed.





# **Appendix B**

# APPLICATION FOR CERTIFICATE OF APPROVAL (CoA) TO MANUFACTURE, IMPORT, DISPLAY OR ADVERTISE ELECTRICAL EQUIPMENT.

## A. Application Procedure

- 1) Applicant is required to apply for Certificate of Approval (CoA) through e-Permit <http://epermit.dagangnet.com>.
- 2) Applicant shall refer to Dagang Net Technologies Sdn Bhd for details on online registrations at toll free 1-300-133-133.
- 3) Applicant is required to apply for Certificate of Registration prior to him/her applying for CoA.
- 4) Details for application to be a registered Manufacturer/Importer are as in **Appendix A**.
- 5) Applicant shall complete the application by providing all information correctly and attach all required documents.
- 6) Information such as Name of Electrical Equipment, Brand and Model shall not be correct or else application will be rejected.
- 7) Detailed steps on application procedures are available at e-Permit website on Trader Module User Guide.
- 8) Technical documents required for CoA to manufacture and import are as follows:
  - Type Test Report validity period not exceed five (5) years from the date of testing and shall not less than 12 month from the date of CoA application;
  - List of components;
  - Instruction manual;
  - Technical specification and catalogue; and
  - Sample of the product, if requested.
- 9) Applicant shall pay RM30.00 as processing fee.

## B. Type Test Report

- (i) Type Test Reports that are recognised by the Commission shall be produced by any of the following laboratories:-
  - 1) SIRIM QAS International Sdn. Bhd. (SIRIM), Malaysia; or
  - 2) Laboratories under Laboratory Accreditation Scheme of Malaysia (SAMM) by Department of Standards Malaysia (DSM) recognised by Energy Commission; or
  - 3) Laboratories under the IECCEB Scheme. The list of the laboratories is available from the website <http://www.cbscheme.org>. The CB test report needs to be accompanied by a CB test certificate; or

- 4) Laboratories (in the scope of its accreditation) which are accredited by the accreditation body\* that have signed the Asia Pacific Laboratory Accreditation Cooperation (APLAC) MRA – <http://www.aplac.org> ; or
  - 5) Laboratories (in the scope of its accreditation) which are accredited by the accreditation body\* that have signed the International Laboratory Accreditation Cooperation (ILAC) MRA – <http://www.ilac.org> ; or
  - 6) Laboratories (in the scope of its accreditation) listed as Designated Testing Laboratory (DTL) under ASEAN Sectoral Mutual Recognition Agreement for Electrical and Electronic Equipment (ASEAN EEE MRA); or
- (ii) For items (3), (4), (5) and (6), testing should include the national deviation in Malaysia. The requirements of national deviation are as in Chapter 8.
- (iii) Test report must be either English or Malaysian language.

*\*Note: Department of Standard Malaysia (DSM) is one of the (APLAC/ILAC) MRA signatory.*

### **C. Annual Fee for New Application**

An annual fee of RM220.00 for single phase and RM330.00 for three phase shall be paid upon approval of the COA as per Second Schedule, Part XIII, Regulation 97(4), Electricity (Amendment) Regulations 2014.

### **D. Requirement for Manufacture**

Electrical equipment that has been approved for manufacturing shall participate in SIRIM's PCS. The electrical equipment shall be affixed with a label issued by SIRIM or bear the SIRIM Certification Mark.

### **E. Requirement for Importer**

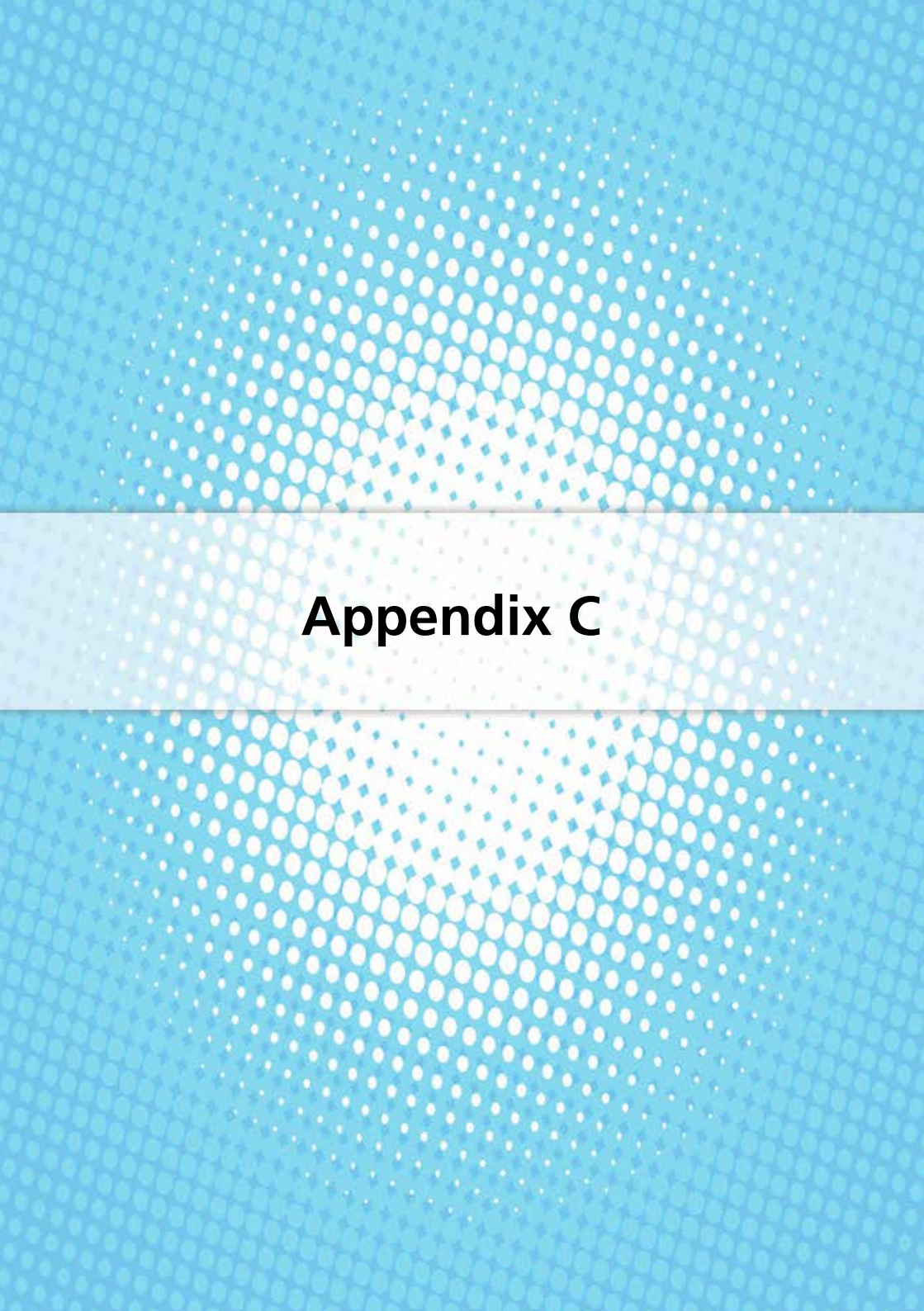
Electrical equipment that has been approved for import into Malaysia shall comply with the consignment test by SIRIM for each batch or participate in SIRIM's PCS within the validity period of the COA. The electrical equipment shall be affixed with labels issued by SIRIM or bear the SIRIM Certification Mark.

Electrical equipment which failed the Consignment Test need to be sent back to the country of origin or shall be destroyed.

Electrical equipment shall be constructed with power supply cord and power plug which comply with Malaysian requirements and standards.

The requirements and standards of Power Supply Cords and Power Plugs are as stated in Chapter 8, No.4.





# Appendix C

# RENEWAL OF CERTIFICATE OF APPROVAL (CoA) TO MANUFACTURE, IMPORT, DISPLAY OR ADVERTISE ELECTRICAL EQUIPMENT

Renewal of CoA shall be made not less than 14 days before its expiry date as required under regulation 106 of Electrical Regulations 1994.

## **A. Application Procedure**

- 1) Applicant (registered Manufacturer / Importer) is required to apply for Renewal of CoA through e-Permit.
- 2) Applicant whose previous Certificate of Registration has expired is required to re-apply with procedures as in **Appendix A**.
- 3) All approved CoA will be displayed at e-Permit and applicants may renew CoA by selecting the previous Job Number or Application ID.
- 4) Applicant shall complete his/her application by providing all information correctly and attaching all required documents.
- 5) Unwanted models shall be deleted/removed from e-Permit before submitting the renewal application for CoA to Energy Commission (ST).
- 6) Application will be rejected if unwanted models are NOT removed from e-Permit. In this case applicant needs to apply for a new CoA.
- 7) Renewal of CoA shall be made within two (2) months before the expiry date and not less than 14 days before the expiry date.
- 8) Application for Renewal of CoA received less than 14 days before the expiry date will automatically be rejected. In this case applicant needs to apply for a new CoA.

## **B. Technical documents required are:**

- 1) Latest test report from testing laboratories recognised by the Commission.
- 2) The test report validity period shall not exceed five (5) years from the date of testing and the validity of test report shall not be less than 12 month from the expiry date of CoA.
- 3) In the case of renewal application for CoA to import, the proof of purchase of SIRIM's label for the period of importing and consignment invoice or copy of consignment test report issued by SIRIM are required.
- 4) In the case of renewal application for CoA to manufacture, the proof of purchase of SIRIM's label or copy of valid Product Certification license issued by SIRIM are required.

**C. Annual Fee for Renewal of CoA**

An annual fee of RM110.00 for single phase and RM220.00 for three phase products shall be paid upon approval of the CoA.

**D. Requirement for Manufacture**

The manufacturer of Electrical equipment that has been approved for manufacture shall also renew his SIRIM's PCS. The electrical equipment shall be affixed with labels issued by SIRIM or bear the SIRIM Certification Mark.

**E. Requirement for Importing**

Electrical equipment that has been approved for import into Malaysia shall comply with the consignment test by SIRIM's for every batch or participate in SIRIM's PCS within the validity period of the COA. The electrical equipment shall be affixed with labels issued by SIRIM or bear SIRIM Certification Mark.

Electrical equipment which fails the Consignment Test need to be sent back to the country of origin or shall be destroyed.

Electrical equipment shall be constructed with power supply cord and power plug which comply with Malaysia's requirements and standards.

The requirements and standards of Power Supply Cord and Power Plug are as stated in Chapter 8, No.4.





# Appendix D

# APPLICATION FOR CERTIFICATE OF APPROVAL (CoA) FOR EXHIBITION PURPOSES

## A. Application Procedure

- 1) Applicant is required to apply for a CoA for Exhibition through e-Permit <http://epermit.dagangnet.com>.
- 2) Applicant is required to apply for Certificate of Registration prior to him/her applying for CoA.
- 3) Details for applications to be registered Manufacturer/Importer can be referred in **Appendix A**.
- 4) Applicant shall complete application by providing all information correctly and attach all required documents.
- 5) Information such as Name of Electrical Equipment, Brand and Model shall be correct or else application will be rejected.
- 6) Detailed steps on application procedures are available at e-Permit website on Trader Module User Guide.
- 7) Technical documents required for CoA for Exhibition purposes are:
  - i) A Cover letter to specify:  
Name, place, address, exhibition date and length of exhibition or offer letter to participate in the related exhibition.
  - ii) The Invoice and Air Way Bill (AWB) for importation by air or Bill of Lading (BL) for importation by sea should be made available.
- 8) Applicant shall pay RM30.00 as processing fee.

## B. Exhibition Fee

Exhibition Fee of RM 220.00 shall be paid upon approval of the CoA.

## C. Requirement for CoA for Exhibition Purposes

Equipment approved is intended to be displayed only. It shall be:-

- NOT to be sold, installed or used;
- re-exported or returned to country of origin after exhibition.



# Appendix E



# APPLICATION FOR RELEASE LETTER (RL)

## A. Application Procedure

- 1) The Energy Commission (ST) will issue a Release Letter to Customs as blanket approval for exemption from Certificate of Approval (CoA) for importation of ST's regulated electrical equipment.
- 2) Release Letter is applicable for Special Purpose, Concert, Factory Research, Quality Research, Re-Work and Re-Export, Imported Components used for Equipment Manufactured for 100% Export or Local Market and Transit.
- 3) For non-regulated equipment, applicant may request Release Letter for Customs clearance purposes.
- 4) Application of Release Letter shall be apply through e-Permit at **<http://epermit.dagangnet.com>**.
- 5) Applicant shall complete application by providing all information correctly and attach required documents.
- 6) Information such as Name of Electrical Equipment, Brand and Model shall be correct or else application will be rejected.

## B. Fee for Release Letter

There is no fee imposed for Release Letter.

## C. Technical Documents Required

### 1. Regulated Equipment for COA Exemption

- i) Specific Purpose - Oil Rig, Tanker, SIRIM Test, Electric Fence Etc.
  - Cover letter to specify the purpose of import, name and address of user as well as place of use,
  - Invoice and Air Way Bill (AWB) for importation via air or Bill of Lading (BL) for importation via sea should be made available.
  - All applications are subjected to Energy Commission's approval.
- ii) Concert
  - The imported equipment shall not be sold, advertised and exhibited and must be re-exported after the concert.
  - Invoice and Air Way Bill (AWB) for importation via air or Bill of Lading (BL) for importation via sea should be made available.
  - Equipment catalogue should also be made available.
- iii) Factory Research
  - The imported sample shall not be sold, advertised or exhibited and the sample must be disposed after the end of the research.
  - Invoice and Air Way Bill (AWB) for importation via air or Bill of Lading (BL) for importation via sea should be made available.
  - A maximum of 10 units per model is allowed for factory research. A copy of manufacturing license should also be made available

- iv) Quality Research
  - The imported sample shall not be sold, advertised or exhibited and the sample must be disposed after end of research.
  - Invoice and Air Way Bill (AWB) for importation via air or Bill of Lading (BL) for importation via sea should be made available.
  - A maximum of 4 units per model is allowed for quality or market research.
  
- v) Repair And Re-Export
  - The imported sample shall not be sold, advertised, exhibited and the sample must be re-exported after repair
  - Invoice and Air Way Bill (AWB) for importation via air or Bill of Lading (BL) for importation via sea should be made available.
  - Export invoice as proof that the manufactured equipment has been re-exported;
  - Manufacturing license should be made available.
  
- vi) Imported Components Used For Equipment Manufactured For 100% Export
  - Letter of confirmation that the completed equipment will be full exported.
  - A copy of License of Manufacturing Warehouse (LMW) manufacturing license with related appendices or tax exemption letter from the Ministry of Finance/MIDA or tax exemption letter from the Royal Malaysian Customs Department.
  
- vii) Imported Components Used For Equipment Manufactured For Local Market
  - A copy of COA to Manufacture for equipment which uses imported components; and
  - Test reports as proof that the components to be imported are required for the equipment to be manufactured.
  
- viii) Transit Purposes
  - Cover letter should specify:
    - a. name and address of Bonded Customs Warehouse where imported equipment will be placed, including the name and telephone number of the officer to be contacted; and
    - b. equipment will 100% re-exported to the related country. The country should be named.
  - Invoice and Air Way Bill (AWB) for importation via air or Bill of Lading (BL) for importation via sea should be made available.

## **2. Non-Regulated equipment**

- Equipment catalogue;
- Test report; and/or
- Sample if required



# Appendix F

**FORM V1**  
(regulation 97C)  
ELECTRICITY SUPPLY ACT 1990

**CERTIFICATE OF REGISTRATION TO MANUFACTURE/ TO IMPORT\***

The Energy Commission hereby certifies in pursuance of section 4(k) of the Electricity Supply Act 1990 that

.....  
.....

at ..... has satisfied the requirements of the Act and the Regulations made thereunder.

The Energy Commission certifies that the above-mentioned

..... has been registered and this Certificate of Registration shall be valid for a period of ..... years(s) from the date of issue stated below.

Date of issue: .....

Place: .....

.....

Energy Commission

---

\* *Delete wherever appropriate*

\*\* *Not less than one year and not more than five years."*





# Appendix G



**FORM V**  
 (regulation 97)  
 ELECTRICITY SUPPLY ACT 1990  
**CERTIFICATE OF APPROVAL**

In accordance with regulation 97 of the Electricity Regulations 1994, this Certificate is issued to .....  
*(name of importer)*

at.....  
*(address)*

and approval is given to

import	display <sup>1</sup>	sell	advertise
--------	----------------------	------	-----------

the equipment, the description of which are set out below direct from

.....  
*(name and country of manufacturer)*

and the equipment is in compliance with:

- (a) Standard : .....
- (b) Type Test Report No : .....

for a period of one year from the date of issue/renewal\* shown hereunder subject to the following conditions:  
*(state)*

Date of issue/renewal\* : ..... Expiry Date : .....  
 Approval No : ..... Fee RM : .....

Description of Equipment

Equipment :.....  
 Trade Name :.....  
 Type/Model :.....

Specification Of Equipment

Voltage .....Volts      Power ..... watts  
 Frequency .....Hz      Current ..... Amp

.....  
 Energy Commission

1. Equipment approved is intended to be displayed only and not to be sold, installed or used.  
 \* Delete whichever is not applicable.



# Appendix H

**FORM W**  
 (regulation 97)  
 ELECTRICITY SUPPLY ACT 1990  
**CERTIFICATE OF APPROVAL**

In accordance with regulation 97 of the Electricity Regulations 1994, this Certificate is issued to .....

*(name of holder's company)*

at.....

*(address)*

and approval is given to-

manufacture	display <sup>1</sup>	sell	advertise	*
-------------	----------------------	------	-----------	---

the equipment, the description of which are set out below direct from

.....

*(name of manufacturer)*

.....

*(address of manufacturer)*

and the equipment is in compliance with:

(a) Standard : .....

(b) Type Test Report No : .....

for a period of one year from the date of issue/renewal\* shown hereunder subject to the following conditions:

*(state)*

Date of issue/renewal\*: ..... Expiry Date : .....

Approval No: ..... Fee RM : .....

*Description of Equipment*

Equipment : .....

Trade Name : .....

Type/Model : .....

*Specification Of Equipment*

Voltage.....Volts      Power ..... watts

Frequency.....Hz      Current .....Amp

.....

Energy Commission

1. Equipment approved is intended to be displayed only and not to be sold, installed or used.

\* Delete whichever is not applicable.





# Appendix I

**FORM U1**  
(regulation 97B)  
ELECTRICITY SUPPLY ACT 1990

**CERTIFICATE OF REGISTRATION AS CONFORMITY BODY**

The Energy Commission hereby certifies in pursuance of section 4(l) of the Electricity Supply Act 1990 that

.....  
.....

at .....

has satisfied the requirements of the Act and the Regulations made thereunder.

The Energy Commission certifies that the above-mentioned

..... has been registered and  
this Certificate of Registration shall be valid for a period of ..... year(s) from the  
date of issue stated below.

Date of issue : .....

Place : .....

.....

Energy Commission

*\* Not less than one year and not more than three years.\*;*

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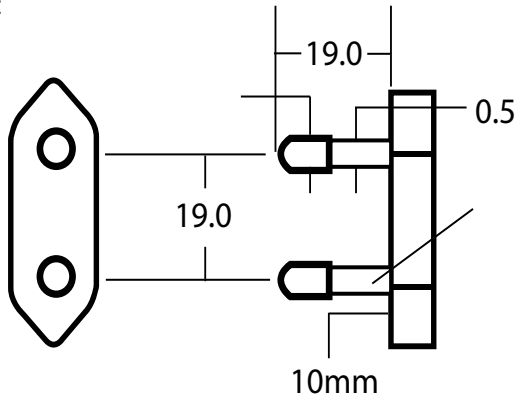
# Appendix J

## ACCEPTABLE AND NON-ACCEPTABLE 2-PIN MAINS PLUG

SOURCE: CEE 7: 1963 Standard Sheet XVI  
IEC 83: 1975 Standard C5

NOTES: This plug is available in two profiles (see page 9)  
Version I : round plug  
Version II : Flat plug, with insulating collar  
Intended to be fitted to class II (double insulated)  
appliances 2.5 A, 250 V  
Two pole - no earth contact

OTHER  
RATINGS : None  
OUTLINE :  
Version II :



**TYPICAL PLUG**



**ACCEPTABLE**



SOURCE : CEE 7: 1963 Standard Sheet XVII

IEC 83: 1975 Standard C5

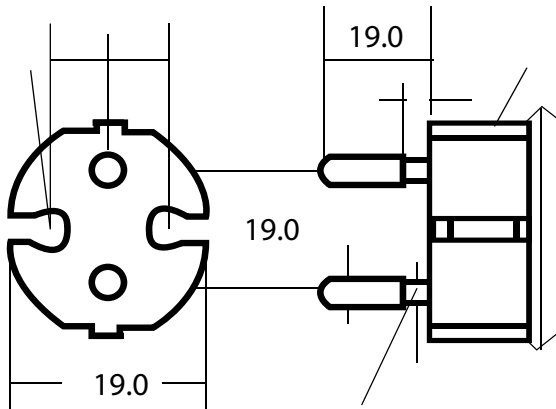
NOTES : Intended to be fitted to class II (double insulated)  
appliances 2.5 A, 250 V

Two pole - no earth contact

OTHER

RATINGS : None

OUTLINE :



**TYPICAL PLUG**



**UNACCEPTABLE**



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