
The Hong Kong Voluntary Energy Efficiency Labelling Scheme for

Induction Cookers June 2018

Energy Efficiency  **EMSD**

Electrical and Mechanical Services Department

3 Kai Shing Street, Kowloon, Hong Kong EMSD
Homepage: <http://www.emsd.gov.hk>

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1. Purpose

This set of document is intended to give a general description on the Hong Kong Voluntary Energy Efficiency Labelling Scheme for Induction Cookers.

2. Background

The Nature of Energy Efficiency Labelling Scheme

- 2.1 The Energy Efficiency Labelling Scheme (EELS) is an energy conservation initiative that the Government of the Hong Kong Special Administrative Region (HKSAR) has adopted. Under the scheme, some common types of appliances will incorporate an energy label that serves to inform consumers of the product's energy consumption and efficiency. Consumers should then be able to take those factors into account and make their purchasing decision.

Objectives of Energy Efficiency Labelling Scheme

- 2.2 The concept of EELS has been developed and implemented in several forms and in different stages of development. In some countries, it is a compulsory requirement for certain kinds of appliances to be provided with an energy label. The labelling requirements may apply to equipment such as household refrigerators / freezers, washing machines, room coolers, clothes dryers, electronic ballast, etc. The EELS generally aims to achieve the following:
- greater public awareness of energy conservation and environmental improvement needs;
 - provision of readily available, pre-purchase information on energy consumption and efficiency data, where applicable, to enable ordinary consumers to select more energy efficient products;
 - stimulation to the manufacturers/market for phasing out less energy efficient models; and
 - actual energy savings and environmental improvements.

- 2.3 Hong Kong aims at achieving the above objectives. The Hong Kong Voluntary Energy Efficiency Labelling Scheme now covers twenty-two types of household electrical / gas appliances and office equipment. Amongst them, thirteen types are electrical appliances, seven types are office equipment, and two types are gas appliances.

3. Scope

- 3.1 The scheme will only apply to the manufacturers and importers (local agents, retailers and the related parties) who have participated in the voluntary scheme.
- 3.2 The scheme commenced from 24 July 2012. It is further revised on 1 June 2018. This document will be reviewed before 1 December 2019. The existing and newly registered labels will remain valid till 30 November 2019. By then, re-registration may be required subject to the review of the scheme.
- 3.3 The scope of application covers all new registered appliances imported to or manufactured in Hong Kong with effect from the date that is declared by the participant but does not cover second-hand products, products already in existing use, under trans-shipment or manufactured for export, etc.
- 3.4 The scheme will be operated as a 'Grading Type' labelling system. All appliances will be recognised and registered provided that they can meet certain energy efficiency and performance requirements as stipulated in the scheme.
- 3.5 The provisions of this scheme shall apply to cookers using electromagnetic induction heating as heating source with rated power consumption range from **700W to 3500W for each heating unit**. The total rated power shall not exceed 7000W.
- 3.6 The scheme does not cover (i) induction cookers for commercial use, (ii) industrial frequency induction cookers (i.e. using 50Hz for electromagnetic induction heating) and (iii) concave stove.

4. Definitions

Unless otherwise specified, the following definitions shall apply throughout this document:

<i>Authority</i>	means the Electrical & Mechanical Services Department, the Government of the Hong Kong Special Administrative Region (HKSAR).
<i>Director</i>	means the Director of Electrical & Mechanical Services Department, the Government of the Hong Kong Special Administrative Region.
<i>Government</i>	means the Government of the Hong Kong Special Administrative Region.
<i>GB</i>	means Guobiao standards.
<i>Heating Unit</i>	means a part of the induction cooker with independent heating function on which a countertop container can be placed.
<i>inspecting officer</i>	means the officer authorized by the Director to carry out inspection on appliances.
<i>Induction cooker</i>	means an appliance used to cook by means of eddy current.
<i>label</i>	means the energy label as described in Section 7 of this document.
<i>participant</i>	means the manufacturers, importers or the retailers of appliance participating in the scheme.
<i>mains electricity</i>	Means the electricity that is supplied in Hong Kong at a voltage of 380/220V and a frequency of 50Hz.
<i>Total rated power</i>	means the power of an induction cooker as determined and declared by the manufacturer or importer of the induction

cooker in accordance with the standard and requirements specified in this Scheme..

rated power per heating unit means the power of a heating unit when operating independently, as determined and declared by the manufacturer or importer of the induction cooker in accordance with the standard and requirements specified in this Scheme.

Recognized laboratory means a laboratory that complies with the requirements as stated in Section 8 of this document and is acceptable to the Authority for carrying out tests and issuing test reports on induction cookers.

scheme means the Hong Kong Voluntary Energy Efficiency Labelling Scheme for Induction Cookers.

Thermal efficiency means the ratio of the heat received in a heating unit of an induction cooker at a given time to the power input to a heating unit of an induction cooker.

GB 21456 means GB 21456:2014

5. Test Methodology and Technical Standards

General

- 5.1 All test standards and specifications specified in this document are only related to checking compliance with the energy efficiency and general performance requirements. It is not the intention of this document to detail out the test standards and requirements for checking compliance with the Electrical Products (Safety) Regulation of the HKSAR. The participant shall conduct appropriate tests, where necessary, in addition to those specified in this document in order to obtain Certificates of Safety Compliance for his appliances.

5.2 Tests required to be carried out

The tests specified in this clause are required to be carried out, in accordance with GB 21456 or other equivalent international standards approved by the Director, in order to find out the energy efficiency and performance characteristics of an induction cooker. A test report required to be submitted and shall contain the results of these tests:

- (a) Power input test;
- (b) Thermal efficiency test; and
- (c) Standby power consumption test.

5.3. Test conditions

In carrying out the tests as specified in clause 5.2 of this scheme, the induction cooker shall be tested at a voltage and frequency of mains electricity in Hong Kong with tolerances as specified the relevant standard. Moreover, unless the Director approves otherwise, the following test conditions shall be followed:

- (a) Relative humidity: 45% ~ 85%;
- (b) Atmospheric pressure: 86kPa ~ 106kPa; and
- (c) Ambient temperature: 20 °C±2 °C and without influence of air flow and heat radiation in the test venue.

5.4 Measurement of Thermal Efficiency and Power Input

- (a) The thermal efficiency test shall be conducted in accordance with Annex B of GB 21456 and the corresponding standard pot used for the test shall satisfy the requirements and the size specification in Annex A of GB 21456, or other equivalent international standards approved by the Director.
- (b) The thermal efficiency test shall be conducted three times and the average value of the three thermal efficiency measurements shall be taken as the thermal efficiency of an induction cooker. For an induction cooker with two or more heating units, test should be conducted on each of the heating units.
- (c) The power input and the energy consumption of each heating unit at the maximum heating mode shall be measured during the thermal efficiency test.
- (d) The total power input of the induction cooker at the maximum heating mode shall be measured.

- (e) The annual energy consumption of the induction cooker shall be calculated by multiplying the measured power consumption by an average of 220 hours per year.

5.5 Measurement of Standby Power Consumption

The standby power consumption test at the test condition shall be conducted in accordance with Annex C of GB 21456 or other equivalent international standards approved by the Director. The power consumption of an induction cooker at the maximum standby power mode shall be measured during the standby power consumption test and is calculated as follows:-

$$P = E / t$$

where P is the average power consumption (W).

E is the measured energy consumption (Wh).

t is the duration of measurement (hour).

5.6. Calculation of Thermal Efficiency

The thermal efficiency (η) is used to measure the energy efficiency of an induction cooker at the test condition and is calculated as follows:-

$$\eta = (c1 \times m1 + c2 \times m2) \times \Delta t \times 100\% / (3.6 \times 10^3 \times E)$$

where η is the thermal efficiency (%).

$c1$ is the specific heat capacity of water, 4.18 (kJ/(kg · K)).

$m1$ is the mass of water (kg).

$c2$ is the specific heat capacity of pot body and lid, 0.46 (kJ/(kg · K));

$m2$ is the total mass of pot body and lid (kg);

E is the energy consumption (kWh);

Δt is the temperature rise, $\Delta t = t2 - t1$ (K).

6. Grading

6.1. Energy Efficiency Grading

The energy efficiency grading of an induction cooker shall be determined as shown in Table 1, with Grade 1 having the best performance and Grade 5 having the worst performance.

Table 1 – Derivation of energy efficiency grades

Rated and Measured Thermal Efficiency, η (%)		Energy Efficiency Grade <i>(Notes)</i>
Rated Power of Heating Unit > 1200W	Rated Power of Heating Unit \leq 1200W	
$\eta \geq 90$	$\eta \geq 88$	1
$90 > \eta \geq 88$	$88 > \eta \geq 86$	2
$88 > \eta \geq 86$	$86 > \eta \geq 84$	3
$86 > \eta \geq 84$	$84 > \eta \geq 82$	4
$\eta < 84$	$\eta < 82$	5

Notes:

Any induction cooker with the rated or measured standby power consumption more than 1W for one heating unit, or more than 2W for two or more heating units, can only obtain a Grade 5 level.

For an induction cooker with two or more heating units, the lowest energy efficiency grade among heating units is used to determine the overall energy efficiency grade.

An example illustrating the method on how to determine the energy efficiency grade of an induction cooker is shown in Annex 8.

6.2 Performance Requirements

In the test report submitted, the results of the tests carried out in accordance with GB 21456 or other equivalent international standards shall show that the concerned model conforms to the following performance requirements—

- (a) The measured power inputs of each heating unit and whole induction cooker shall be neither less than 95% nor greater than 105% of the

rated power inputs of each heating unit and whole induction cooker.

- (b) The thermal efficiency calculated shall meet the requirements as stipulated in clause 6.1 of the Scheme.
- (c) The measured standby power consumption shall not exceed 1W for one heating unit or 2W for two or more heating units. Any induction cooker failing to meet this requirement can only obtain Grade 5.
- (d) The rated power input, rated thermal efficiency and rated standby power consumption as declared by the manufacturer or importer shall meet the requirements specified in clause 6.2 of the Scheme.

7. Energy Label

Label Location

- 7.1 The labels should be self-adhesive or otherwise approved by the Director and affixed to the appliance at a prominent location. The participant shall ensure that the energy label appears on every registered appliance on display or sale and should be easily visible.

Colour Scheme & Dimensions

- 7.2 The energy labels shall be printed on white-coloured self-adhesive sheet material and should have colour schemes and dimensions as shown in Annex 1. It shall be printed in English and in Chinese.

Labels Quality

- 7.3 The paper or the material that is approved by the Director for the label should be durable and possess good wear and tear characteristics. It should stick tightly on the appliance.

8. Testing Facilities, Laboratories and Accreditation Bodies

- 8.1 The Authority will accept the results and certificates issued by the test laboratory which fulfill one of the following criteria as specified in Clause 8.2 or 8.3.

- 8.2 The laboratory is accredited to GB 21456 “Minimum Allowable values of energy efficiency and energy efficiency grades for household induction cookers”. The laboratory is accredited by the Hong Kong Accreditation Service (HKAS) for the relevant test under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or a scheme with which HKAS has concluded a mutual recognition agreement[#]; and the results are issued in a test report or certificate bearing the accreditation mark.
- 8.3 The Authority will also consider the following arrangements:
- (a) Self-certification by original manufacturers that the operations of their in-house laboratories satisfies the requirements of ISO/IEC 17025; and
 - (b) The manufacturers currently operating according to a recognized international quality system (such as ISO 9001); and
 - (c) The manufacturer’s in-house laboratories had been successful in carrying out tests on induction cookers in accordance with GB 21456 - 2014 “Minimum Allowable values of energy efficiency and energy efficiency grades for household induction cookers” and where these tests had been evaluated and certified by recognised independent certification body.
- 8.4 The recognised independent certification body mentioned in Clause 8.3 shall meet the following minimum requirements:
- (a) Being recognized internationally to be competent for certifying product energy efficiency performance tests; and
 - (b) Having experience in assessing and certifying the relevant energy efficiency performance tests; and
 - (c) Having well established assessment procedures, including staff training and assessment criteria, relating to assessment and certification of energy efficiency performance tests.

[#] *HKAS has concluded mutual recognition arrangements with overseas accreditation bodies for testing laboratory accreditation. The list of mutual recognition arrangement partners may change from time to time and the up-to-date list is available from the HKAS website of www.info.gov.hk/itc/hkas. Partners to these arrangements recognise the accreditations granted by one another as equivalent.*

Laboratory Accreditation

- 8.5 The Government takes cognizance of the need to ensure acceptable and compatible quality standards of testing laboratories, and considers that they need to be accredited by some independent bodies.
- 8.6 The criteria of accreditation should be based on ISO/IEC 17025 and accreditation bodies shall operate in accordance with ISO/IEC 17011.
- 8.7 The Authority will recognize accreditation granted by the HOKLAS and by overseas accreditation bodies which have concluded mutual recognition arrangements with HKAS for accreditation of testing laboratories. The Authority will consider accreditation granted by other bodies on a case-by-case basis.

9. Registration and Participation

Registration Procedures

- 9.1 All manufacturers, importers and the other parties involved in the appliance distribution network are welcomed and encouraged to participate in the scheme. For some known manufacturers and importers, invitation letters will be issued to them. However, any party may submit their applications for registration no matter whether they are invited or not.
- 9.2 The proforma letter of invitation is shown in Annex 2.
- 9.3 Applicant should submit formal application to
- Chief Engineer /Energy Efficiency A
Energy Efficiency Office
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong*

by means of an application letter through mail, facsimile or electronic mail. In order to ensure effective implementation of the scheme, the applicant must be

committed to fully comply with the duties, responsibilities and obligations set out in this scheme. The proforma letter of application as shown in Annex 3 details the aforesaid obligations and shall be used for application. To facilitate the application process, the application form can be downloaded from EMSD website.

Information/Documents to be Submitted for Registration

- 9.4 Each make and model of an appliance participating in the scheme should be provided with a test report issued by a recognized laboratory. The test report shall contain energy efficiency test and performance test results.
- 9.5 Details of the general and technical information to be submitted together with the application are listed as follows:
- (a) information on the company such as name, address, telephone number, fax, e-mail address, contact person, importer, distributor, etc.;
 - (b) products to apply for participating in the scheme such as names of products, types, brand names, models, countries of origin, etc.;
 - (c) parties that will be responsible for making and fixing the energy labels;
 - (d) commencement date to affix energy labels on appliance;
 - (e) Certificates of Safety Compliance prescribed by the Electrical Products (Safety) Regulation of the HKSAR (Chapter 406G);
 - (f) Detailed test reports shall be provided at least the following relevant technical data for the appliances:
 - rated wattage;
 - power input during the maximum heating mode;
 - energy consumption for the maximum heating mode;
 - thermal efficiency, including the detailed calculation; and
 - standby power consumption (if applicable).
- 9.6 Company's name and chop should be stamped on all the documents provided. All photocopy test reports submitted to the Authority shall be certified true copy by appropriate organization.

Acceptance of Registration

- 9.7 On receipt of the application, the Authority will process the application and verify whether the appliance meets the energy efficiency and performance requirements based on the submitted data. The accuracy of the submitted data, their inconsistencies and non-compliance will be dealt with in accordance with Section 11.
- 9.8 If the application is accepted, the participant will be notified of the result within 17 working days upon receipt of all necessary information requested. The participants will then be allowed to affix the energy label onto the 'registered' appliance. Both manufacturer and importer of the registered appliance shall ensure that the energy labels are correctly printed and affixed on the appliance in accordance with the requirements of Section 7. The proforma letter of acceptance is shown in Annex 5.
- 9.9 If the application is rejected, the notification letter as shown in Annex 6 will also be given within 17 working days upon receipt of all necessary information requested.
- 9.10 The flow chart for registration is shown in Annex 7.

Participant's Duties, Responsibilities and Obligations

- 9.11 The participant is obliged to:
- (a) submit application and information including test results in accordance with format and procedures set out in Section 9.4 & 9.5;
 - (b) conduct tests via recognized laboratories and to comply with the specified test methodology and classification scheme;
 - (c) produce and affix energy labels at his own costs;
 - (d) fully inform other sales agents in his distribution network once the particular make and model of an appliance is registered;
 - (e) allow random/ad-hoc inspection to be conducted by persons authorized by the Authority on registered appliance at his premises;

- (f) conduct re-test(s) at his own costs at some recognized laboratories, if non-compliance is found on his appliance. The result of re-test(s) shall reach the Authority within the prescribed period of time specified by the Authority;
- (g) inform the Authority of any change in the technical information and data that were previously submitted to the Authority together with the application letter;
- (h) accept the fact that if appliance fails to perform in accordance with the requirements as given in Sections 5 and this cannot be readily rectified, the Authority may order it be de-registered from the scheme; and
- (i) immediately remove all labels from appliances which had been de-registered.

9.12 The details of the registered appliances will be kept in a register maintained by the Authority. The registration records will be regularly uploaded and maintained in the EMSD internet for public and interested parties for access and information.

Termination

9.13 Under circumstances of poor performance, such as

- (a) (repeated) failure to fulfill obligations set out under Section 9.11; **or**
- (b) in any other case where the Director is of the opinion that registration of an appliance is contrary to the public interest

the Authority may de-register a registered appliance with immediate effect by giving the participant notice in writing. Once an appliance is de-registered, no one is allowed to fix an energy label on it.

De-registration may occur even when there is no legal action taken under either the Trade Description Ordinance (Chapter 326) or the Copyright Ordinance (Chapter 528).

9.14 Participant who decides to discontinue participating in the scheme or to withdraw any registered model from the registered appliances list shall give at least three months' advance notice to the Authority.

10. Legal Provisions

- 10.1 This scheme is a voluntary scheme. However, a participant who abuses the scheme by giving false information may contravene provisions of the Trade Description Ordinance (Chapter 326).
- 10.2 No one could take advantage of the scheme by using the label on his appliances without authorization of the Authority as that may constitute an infringement of copyright under the Copyright Ordinance (Chapter 528).

11. Compliance Monitoring and Inspection

Purpose

- 11.1 To uphold credibility of the scheme and to maintain continuous confidence of the consumers, compliance check on energy labels on those appliances participating in the scheme are needed. Also, to avoid the unsatisfactory situation that the non-participating parties taking advantage of the scheme by using unauthorized labels, suitable form of inspection on those unregistered appliances will also be required.

Scope

- 11.2 The scope of inspection includes sample checking and testing the following items:
- (a) whether energy label is positioned as required in Section 7;
 - (b) whether energy label being displayed is of correct format in accordance with Section 7;
 - (c) whether unregistered appliances display unauthorized energy labels;
 - (d) whether the registered appliance complies with the energy efficiency and performance requirements; and

- (e) whether the data submitted by the participants are correct by random re-testing.
- 11.3 The participants will be requested to take immediate remedial action and report the follow-up action taken if non-compliance is found on their appliances.
- 11.4 For a registered appliance which is found giving inaccurate energy performance data (i.e. discrepancy between the registration data and the test result is more than 5 %), the Authority may request the participant to conduct separate performance tests at his own costs, in accordance with the test methodology as stated in Section 6 in one of the recognized laboratories agreed by the Authority. If non-compliance is confirmed and no remedial action is to be taken by the applicant, the Authority may order it be de-registered from the scheme. Failure to remove energy labels from the de-registered appliances after the Director has withheld his authorization for using such labels may contravene the relevant ordinances.

Inspecting Officers

- 11.5 The Authority will authorize inspecting officers to carry out appliances compliance monitoring and inspection. The officers will carry proper identification cards that will be produced on request during their inspection operations. However, the officer will not inform the participants in advance of their intended inspection operation.
- 11.6 It is the participants' duty to allow the inspecting officers to gain access to their premises to carry out inspection.

Mode of Inspection

- 11.7 Inspections will be carried out on registered appliances under the scheme on random basis. Based on the record of the registration, random inspection programmes will be developed.
- 11.8 In addition to the random inspections, the inspecting officers will carry out ad-hoc inspections in response to complaints. The items to be inspected in such a

case will depend upon the nature of complaint and may include all types of inspection as stated in Section 11.2.

11.9 Inspections will normally be carried out at the retail outlets and appliances showrooms. Where necessary, inspection will also be done at warehouses.

11.10 The inspection results will be properly recorded for future analysis as well as on evaluation of the effectiveness of the scheme.

Compliance

11.11. During the compliance monitoring testing carried out by the Director, a registered model of induction cooker will be accepted as conformance if the test results of a single sample of the registered model meet the following criteria:

- (a) The tested power inputs of each heating unit and whole induction cooker shall be neither less than 95% nor greater than 105% of the rated power inputs of each heating unit and whole induction cooker.
- (b) The thermal efficiency calculated in the compliance monitoring testing being equal to or better than the requirements of thermal efficiency as stipulated in Clause 6 for the respective grade determined by the specified person.
- (c) The tested standby power consumption shall not exceed 1W for one heating unit or 2W for two or more heating units for Grade 1 to 4.

11.12. The Director may remove from the registered record of induction cooker, if he has reasonable grounds to believe that the induction cooker does not conform to the specified information or a specified document, or their updates if any, submitted to the Director. The specified person may provide explanation on the failure of a product to pass the compliance monitoring testing stipulated in clause 13.11 above and apply for further testing of the concerned model for the Director's consideration.

11.13. If further testing is approved to be carried out, three samples of the same model shall be tested at the specified person's own costs. A registered model of induction cooker will be accepted as conformance if the results of further testing meet the following criteria:

- (a) The tested power inputs of each heating unit and whole induction cooker shall be neither less than 95% nor greater than 105% of the rated power inputs of each heating unit and whole induction cooker.

- (b) The thermal efficiency calculated in the compliance monitoring testing being equal to or better than the requirements of thermal efficiency as stipulated in Clause 6 for the respective grade determined by the specified person.
- (c) The tested standby power consumption shall not exceed 1W for one heating unit or 2W for two or more heating units for Grade 1 to 4.

(Remark: The specified person can choose to accept the results of further testing undertaken on fewer than three samples if the results of each sample subsequently tested also do not meet the acceptance criteria as stated above.)

12. Complaints and Appeal

- 12.1 The Authority will be responsible for dealing with complaints from participant and other parties against matters related to the scheme.

Complaints Handling Procedure

- 12.2 The Director shall ensure that complaints are properly recorded and handled without undue delay.
- 12.3 The Authority shall carry out preliminary investigation on complaints and reply to the complainants within a reasonable time. For complaints that require site inspection and laboratory test, the complainant shall be notified through an interim reply.
- 12.4 The Authority shall inform the complainant of the results or decisions made on the complaint.

Appeal Procedure

- 12.5 A participant who is aggrieved by a decision or action taken by the Authority may appeal to the Director in writing stating the reason for the appeal.

- 12.6 The Director may decide to suspend the decision or action given by the Authority from the day on which the appeal is made until such appeal is disposed of, withdrawn or abandoned unless such suspension would, in the opinion of the Director, be contrary to public interest.
- 12.7 The Director may by notice to the appellant require that appellant to attend before him or his representative and provide documents and give evidence relevant to the appeal.
- 12.8 The Director shall notify the appellant of his decision and reasons for it. The decision will be final and binding.

13. Maintenance of Scheme

- 13.1 To ensure that the scheme can continue to operate effectively and efficiently after its introduction, a proper system of maintenance is needed.
- 13.2 The maintenance system consists essentially of:
- (a) continuous updating of the lists of participants in the scheme as follows:
 - (i) registered appliances with details such as registration number, date of registration or de-registration if it occurs, energy efficiency data, performance data, make, model and other related information ; **and**
 - (ii) registered importers, manufacturers, local agents etc. in the distribution network with details such as address, date of registration or de-registration if it occurs, etc.
 - (b) periodic review of the test standards, procedures for application registration and compliance monitoring, etc. to bring them in line with the latest needs of the manufacturers, importers and retailers, etc.
 - (c) continuous evaluation of the effectiveness of the scheme and assessment of what changes are necessary.

Energy Label Format



(Not to Scale)

The figure of the energy label is shown not to scale.

Soft copy of this label can be obtained from Energy Efficiency Office, Electrical and Mechanical Services Department.

Proforma Letter of Invitation

Our ref. EMSD/EEO/LB/36
Your ref.

Tel.:
Fax:

Date

[Name and Address of Manufacturers/Importers/Agents]

Dear Sir/Madam,

**Invitation of application for registration to participate in
Voluntary Energy Efficiency Labelling Scheme for Induction Cookers**

Having gone through the necessary consultations and duly considered the views from various concerned parties, the government has decided to introduce a voluntary energy efficiency labelling scheme for induction cookers to Hong Kong with effect from (_____). The details of this scheme have been finalized and I enclose herewith a copy of the scheme document for your reference.

Being one of the major induction cooker manufacturers / importers / agents* in Hong Kong, you are invited to participate in the scheme so as to take part in promoting public awareness in energy conservation and environmental improvement to Hong Kong. If you are interested to participate in the scheme, please apply in accordance with the attached proforma letter of application and submit details including technical information in accordance with the attached Annex 4 of the scheme document to the Chief Engineer / Energy Efficiency A at the following address:

Energy Efficiency Office
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong

Should you need further clarification or information, you are most welcome to contact the undersigned or Mr. _____ on telephone number _____.

Yours faithfully,

for Director of Electrical & Mechanical Services

* delete as appropriate

Proforma Letter of Application

Your ref. EMSD/EEO/LB/36
Our ref.

Tel.:
Fax:

Date

Chief Engineer/Energy Efficiency A
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong

Dear Sir/Madam,

**Application for registration to participate in
Voluntary Energy Efficiency Labelling Scheme for Induction Cookers**

Our company is the (manufacturer/importer/agent*) of induction cookers in Hong Kong. We support the introduction of the labelling scheme to Hong Kong and would like to be one of the participants in the scheme to promote energy efficiency.

We understand fully the obligations and duties stated in the scheme and will comply with all relevant requirements, in particular those specified below:

- i) conduct tests via recognized laboratories and to comply with the specified test methodology and classification scheme;
- ii) produce and affix specified Energy Labels at my own costs;
- iii) allow random/ad-hoc inspection to be conducted by persons authorized by the issuing Authority on registered appliance at my premises;
- iv) conduct re-test(s) at my own costs at some recognized laboratories, if the results of inspection suggest inaccurate energy label information being displayed. The result of re-test(s) shall reach the Authority within the prescribed period time specified by the Authority;
- v) inform the Authority of any change in the technical information and data that were previously submitted to the Authority together with the application letter; and
- vi) accept the fact that if appliance fails to perform in accordance with the required standard performance as given in the scheme and this cannot be readily rectified, the Authority may order it be de-registered from the scheme.

The details of information of those appliances, which we intend to register with the Authority, are shown in the attached document, and are submitted herewith for your vetting.

We should be grateful if you would approve our application accordingly in due course.

Yours faithfully,

()

(Manufacturer/Importer/Agent's Name and Company Chop)

* delete as appropriate

Information to be submitted to Energy Efficiency Office

1. Information on the company:

Name, address, telephone and fax nos., E-mail, contact person, importer, distributor, etc.

2. Product to apply for participating in the scheme:

Name of products, type, make, model references, countries of origin, etc.

3. Parties responsible for making and fixing the Energy Labels

4. Commencement date to affix Energy Labels on appliance

5. Detailed test reports providing at least the following relevant technical data for the appliances:
 - (a) rated wattage;
 - (b) power input during the maximum heating mode;
 - (c) energy consumption for the maximum heating mode;
 - (d) thermal efficiency; and
 - (e) standby power consumption (if applicable).

6. Documentary proof that the appliance(s) comply with the Electrical Products (Safety) Regulation of the Hong Kong Special Administrative Region.

*Note: Company's name and chop should be stamped on the all documents provided.
All test reports submitted to the office shall be certified true copy by appropriate organization.*

Proforma Letter of Acceptance

Our ref. EMSD/EEO/LB/36
Your ref.

Tel.:
Fax:

Date

[Name and Address of Manufacturers/Importers/Agents]

Dear Sir/Madam,

Acceptance of application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Induction Cookers

With reference to your application, I am pleased to inform you that your application to participate in the captioned scheme has been accepted.

You are allowed to affix a specified Energy Label onto each and every appliance registered under the scheme and the registered appliance(s) are as follows:

<u>Item</u>	<u>Brand</u>	<u>Model No.</u>	<u>Registration No.</u>	<u>Effective Date</u>
()	()	(

The registration certificate(s) of appliance registered are ready for your collection.

Should you have queries, please contact the Case Officer, Mr _____ at telephone no. _____ / email : _____ or Mr _____ at telephone no. _____ / email : _____.

Yours faithfully,

(_____)
for Director of Electrical & Mechanical Services

Proforma Letter of Rejection

Our ref. EMSD/EEO/LB/36
Your ref.

Tel.:
Fax:

Date

[Name and Address of Manufacturers/Importers/Agents]

Dear Sir/Madam,

Rejection of application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Induction Cookers

With reference to your letter of application, I regret to inform you that your application for registration to participate in the scheme has not been accepted for the following reasons:

1. _____ etc.

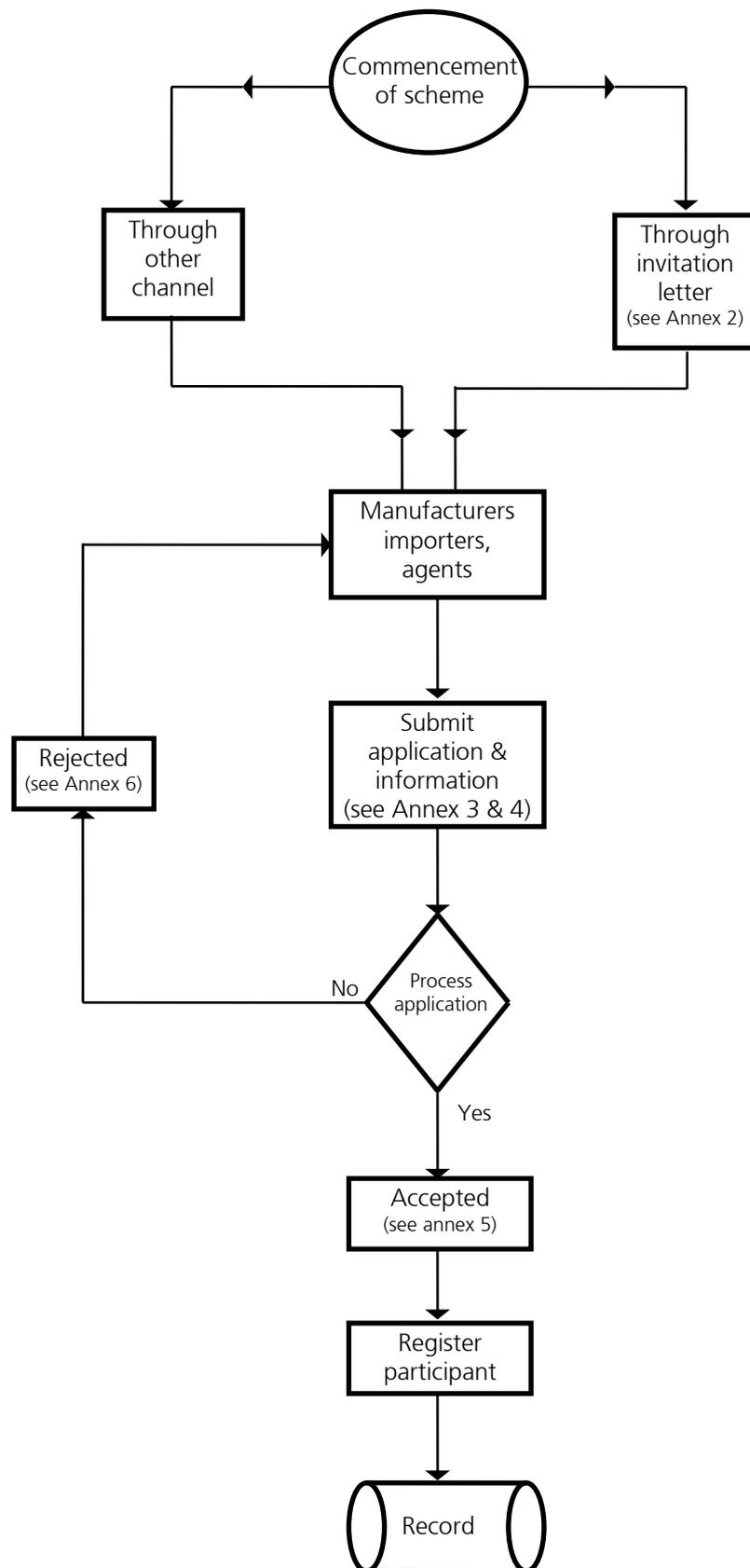
You are most welcome to submit new application again in future, when you have the necessary documents / information to support your application.

Yours faithfully,

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for Director of Electrical & Mechanical Services

Flow Chart for Registration



Example for Calculating the Energy Efficiency Grade for Induction Cooker

The given induction cooker is of two heating units (left and right side).

Rated power input of an induction cooker.....	2400W
Rated standby power consumption of an induction cooker.....	1.5W
Rated power of left side heating unit (heating unit 1).....	1400W
Rated power of right side heating unit (heating unit 2)	1000W
Rated thermal efficiency of heating unit 1	87%
Rated thermal efficiency of heating unit 2	87%

According to Table 1 in clause 6 of the Scheme, the rated thermal efficiency of heating unit 1 is rated as Grade 3 whereas the rated thermal efficiency of heating unit 2 is rated as Grade 2. Besides, the rated standby power consumption for two heating units is less than 2W. From the rated information as declared by the manufacturer or importer, the induction cooker is rated as a Grade 3 induction cooker.

Measured power input of an induction cooker.....	2460W
Measured standby power consumption	1.6W

Measured power input and thermal efficiency of heating unit 1

Measured power input (1st test) (P11)	1420W
Measured power input (2nd test) (P12).....	1430W
Measured power input (3rd test) (P13)	1440W
Average of three power input measurements	

$$= (P11 + P12 + P13)/3 = (1420+1430+1440)/3 = 1430W$$

Measured thermal efficiency (1st test) (TE11)88.0%
 Measured thermal efficiency (2nd test) (TE12).....88.2%
 Measured thermal efficiency (3rd test) (TE13)88.4%
 Average of three thermal efficiency measurements
 $= (TE11 + TE12 + TE13)/3 = (88.0+88.2+88.4)/3 = 88.2\%$

Measured power input and thermal efficiency of heating unit 2
 Measured power input (1st test) (P21)1020W
 Measured power input (2nd test) (P22).....1030W
 Measured power input (3rd test) (P23)1040W
 Average of three power input measurements
 $= (P11 + P12 + P13)/3 = (1020+1030+1040)/3 = 1030W$

Measured thermal efficiency (1st test) (TE21)86.0%
 Measured thermal efficiency (2nd test) (TE22).....86.6%
 Measured thermal efficiency (3rd test) (TE23)86.3%
 Average of three thermal efficiency measurements
 $= (TE21 + TE22 + TE23)/3 = (86.0+86.6+86.3)/3 = 86.3\%$

The measured power input of the induction cooker at the maximum heating mode does not exceed 5% of the rated power input of the induction cooker. Besides, for the induction cooker with two heating units, the lowest energy efficiency grade among heating units is used to determine overall grade, and standby power consumption for induction cooker of two heating units is less than 2W. From the test, the induction cooker is rated as Grade 2.

Overall, considering the lowest energy efficiency grade among the induction cooker from the rated and measured information, the induction cooker is rated as Grade 3.