

《強制性能源效益標籤計劃第四階段》

4th Phase of the Mandatory Energy Efficiency Labelling Scheme

講座 Seminar 2024

能源效益事務處

Energy Efficiency Office

機電工程署
EMSD

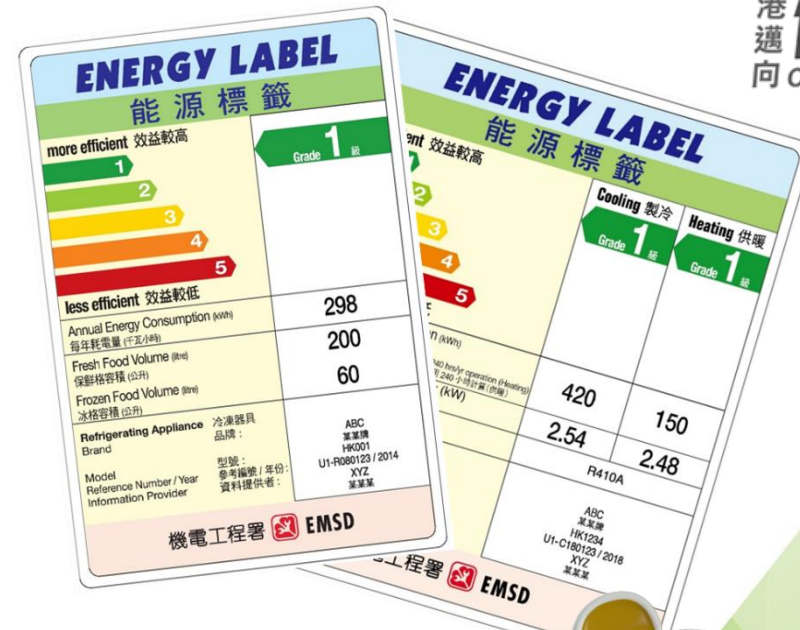


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註：本簡報所提供的資料盡量以簡易文字表達，但並非盡錄，它僅供一般參考。有關條例之詳細釋義及規定，請參閱《能源效益(產品標籤)條例》及《產品能源標籤實務守則》。

Remark: The information provided in this brief is in plain text as far as possible but not exhaustive. It is for general reference only. Please refer to the Energy Efficiency (Labelling of Products) Ordinance and the Code of Practice on Energy Labelling of Products for the detailed interpretations and requirements.



1. 背景 Background

- 政府於二〇〇八年制定《能源效益（產品標籤）條例》（第598章），分階段實施強制性能源效益標籤計劃。
The Government has implemented the Mandatory Energy Efficiency Labelling Scheme (MEELS) in phases through the enactment of the Energy Efficiency (Labelling of Products) Ordinance (Cap. 598) since 2008.
- 規定在本港供應的訂明產品必須貼上能源標籤，讓消費者知悉產品的能源效益表現。
Under the Ordinance, energy labels are required to be shown on all prescribed products for supply in Hong Kong to inform consumers of their energy efficiency performance.



政府持續檢討強制性能源效益標籤計劃的涵蓋範圍及評級標準
The Government regularly review the scope and grading standard of MEELS

第一次檢討評級標準
1st Review of Grading Standards

第二次檢討評級標準
2nd Review of Grading Standards



1. 背景 Background



LED燈
LED Lamps



氣體煮食爐
Gas Cookers



即熱式氣體熱水爐
Gas Instantaneous Water Heaters

第四階段 Phase 4

生效日期

Commencement Date

2023年9月1日
1 Sept 2023

全面實施

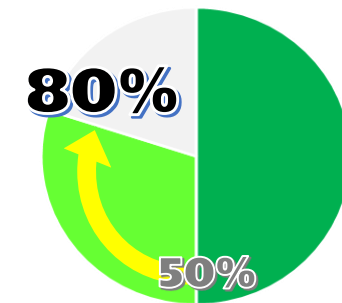
Full Implementation

2024年12月1日
1 Dec 2024

15個月過渡期

15-month Transitional Period

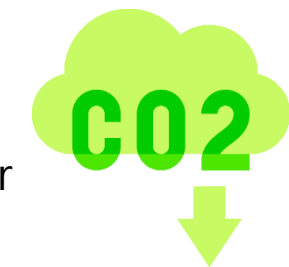
強制性標籤計劃所涵蓋的住宅總能源消耗量
Total coverage of energy consumption
in the residential sector by MEELS



估計每年可額外節省能源約
Potential additional annual energy saving



相當於每年減少約75 350公噸碳排放
Equivalent to the reduction of
75 350 tonnes of carbon emissions per year





LED燈
LED Lamps

2. 涵蓋範圍 Scope

- LED燈 指符合以下說明的燈 ——
 - a) 使用發光二極管技術(但並非使用有機發光二極管技術)來發出光線；及
 - b) 該支燈 ——
 - (i) 能夠提供一般照明；
 - (ii) 使用市電作唯一電源；及
 - (iii) 額定瓦數值不超過60瓦特。

- LED lamp means a lamp—
 - a) that uses the light-emitting diode technology, but not the organic light-emitting diode technology, to emit light; and
 - b) that—
 - (i) is capable of providing general lighting;
 - (ii) uses mains electricity as the only power source; and
 - (iii) has a rated lamp wattage not exceeding 60 watts.

2. 涵蓋範圍 Scope

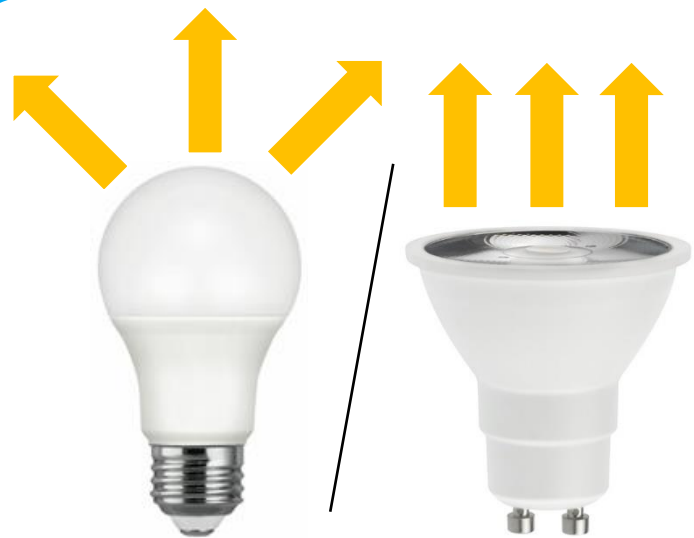
220V



- ✓ 能夠提供一般照明
is capable of providing **general lighting**
- ✓ 使用市電作唯一電源
uses **mains electricity** as the only power source
- ✓ 最高額定瓦數值為60瓦
has a rated lamp wattage up to **60 watts**



LED燈
LED Lamps



定向或非定向的發光二極管燈
Non-directional / directional integrated type



用作一般照明用途
for general lighting purposes

- ✓ 具有單燈頭
has a **single lamp cap**

including but not limited to:



「LED燈」不包括有機發光二極管燈
"LED lamp" does not include organic LED lamps





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2. 涵蓋範圍 Scope

- 色度坐標在以下範圍：

Chromaticity coordinates within the range:

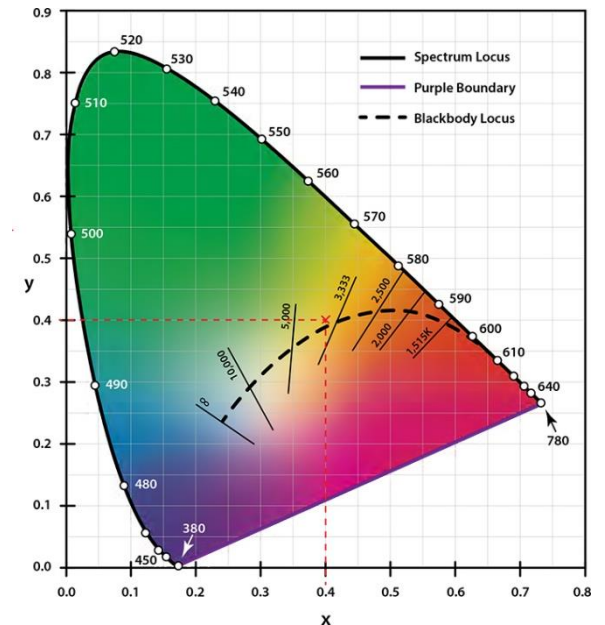
➤ $0.27 < x < 0.530$

➤ $-2.3172x^2 + 2.3653x - 0.2199 < y < -2.3172x^2 + 2.3653x - 0.1595$

- 色度值範圍

Range of chromaticity values

➤ IEC 62612 / ANSI C78.377



3. 測試要求 Test Requirements



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測試標準 Test standard: IEC 62612:2013

須進行的測試 Tests Required	測試結果 Test Results		
	每個樣本的量度值 Measured value of each sample	平均量度值 Average of the measured values	
初始測試 (在穩定時間後) Initial measurements (after stabilisation period)			
光通量 Luminous flux	不得比額定光通量少10%以上 Not less than the rated luminous flux by more than 10%	不得比額定光通量少7.5%以上 Not less than the rated luminous flux by more than 7.5%	
功率消耗量 Power consumption	不得比額定功率消耗量多10%以上 Not exceed the rated power by more than 10%	不得比額定功率消耗量多7.5%以上 Not exceed the rated power by more than 7.5%	
備用功率消耗量 (如適用) Standby power consumption (if applicable)	不適用 Not applicable	≤0.5瓦 ≤0.5W	
顯色指數 Colour rendering index	≥ 80	不適用 Not applicable	
顏色一致性 Colour consistency	維持於6階麥克亞當橢圓之內或更少 Within a 6-step MacAdam ellipse or less	不適用 Not applicable	
位移因數 Displacement factor	不適用 Not applicable	額定功率少於或等於2瓦 Rated power ≤ 2 W	沒有規定 no requirement
		若額定功率超過2瓦和少於或等於5瓦 2W < Rated power ≤ 5W	位移因數須超過或等於0.4 displacement factor ≥ 0.4
		若額定功率超過5瓦和少於或等於25瓦 5W < Rated power ≤ 25W	位移因數須超過或等於0.7 displacement factor ≥ 0.7
		額定功率超過25瓦 Rated power > 25W	位移因數須超過或等於0.9 displacement factor ≥ 0.9
開關循環 Switching cycle	若額定電燈壽命超過或等於30 000小時，開關循環次數須超過或等於15 000次；其他則開關循環次數須超過或等於額定電燈壽命的一半 (以小時計) ≥ 15 000 if rated lamp life ≥ 30 000 hours, otherwise ≥ half the rated lamp life expressed in hours.	不適用 Not applicable	

3. 測試要求 Test Requirements



LED燈
LED Lamps

須進行的測試 Tests Required	測試結果 Test Results	
	每個樣本的量度值 Measured value of each sample	平均量度值 Average of the measured values
在6 000小時結束時		
顯色指數 Colour rendering index	≥ 80	不適用 Not applicable
顏色一致性 Colour consistency	維持於6階麥克亞當橢圓之內或更少 Within a 6-step MacAdam ellipse or less	不適用 Not applicable
流明維持率 Lumen maintenance	不適用 Not applicable	≥ 80%
電燈存活率 Lamp survival factor	超過或等於測試樣本的90% ≥ 90% of the test samples	



LED燈
LED Lamps

4. 能源效益評級 Energy Efficiency Grading

$$\text{發光效率 } Luminous\ Efficacy = \frac{\text{光通量 } Luminous\ Flux}{\text{瓦數 } Wattage}$$

能源效益級別是利用量度出的電燈發光效率 (E_m) 或額定電燈發光效率 (E_r) ，兩者中以較低者來釐定。

The energy efficiency grading is determined by using the measured lamp luminous efficacy (Em) or the rated lamp luminous efficacy (Er), whichever is smaller.

X 註(1)				
第1級 Grade 1	第2級 Grade 2	第3級 Grade 3	第4級 Grade 4	第5級 Grade 5
$X \geq 110$	$110 > X \geq 90$	$90 > X \geq 63$	$63 > X \geq 50$	$50 > X$

註 Note:

$X =$ 量度出的電燈發光效率(E_m)或額定電燈發光效率(E_r)，兩者中以較低者來釐定。
measured lamp luminous efficacy (E_m) or the rated lamp luminous efficacy (E_r), whichever is smaller.

4. 能源效益評級

Energy Efficiency Grading

量度出的發光效率 **Measured Luminous Efficacy (Em)**

$$= \frac{199\text{lm}}{1.43\text{W}} = 139\text{lm/W}$$

額定發光效率 **Rated Luminous Efficacy (Er)**

$$= \frac{180\text{lm}}{2\text{W}} = 90\text{lm/W}$$

因為 $E_r < E_m$ ，所以 E_r (90 流明 / 瓦) 被用來釐定能源效益級別，該發光二極管燈被評定為**第2級**。

Since the $E_r < E_m$, the E_r (90 lm/W) is used to determine the energy efficiency grade, the LED lamp is rated as **Grade 2**.



第1級 Grade 1	第2級 Grade 2	第3級 Grade 3	第4級 Grade 4	第5級 Grade 5
$X \geq 110$	$110 > X \geq 90$	$90 > X \geq 63$	$63 > X \geq 50$	$50 > X$

$X = E_m$ 或 E_r ，兩者中以較低者來釐定。

$X = E_m$ or E_r , whichever is smaller.



LED燈
LED Lamps

額定功率輸入 Rated power input	2W	
額定光通量 Rated luminous flux	180lm	
額定電燈壽命 Rated lamp life	25 000 hrs	
在電燈穩定後的量度值： Measurements taken after stabilisation of the lamps:		
功率輸入 Power input	1.43W	<ul style="list-style-type: none"> 平均量度值不比額定功率消耗量多7.5%以上 The average of the measured values does not exceed the rated power by > 7.5% 每個樣本的量度值不比額定功率消耗量多10%以上 The measured value of each sample do not exceed the rated power by > 10%
備用功率消耗量 Standby power consumption	0.3W	$\leq 0.5\text{W}$
光通量 Luminous flux	199lm	<ul style="list-style-type: none"> 平均量度值不比額定光通量少7.5%以上 The average of the measured values is not less than the rated luminous flux by more than 7.5% 每個樣本的量度值不比額定光通量少10%以上 The measured value of each sample is not less than the rated luminous flux by more than 10%
在6 000小時後的流明維持率 Lumen maintenance at 6 000 hours	91%	$\geq 80\%$
在6 000小時後的電燈存活率 Lamp survival factor at 6 000 hours	100%	$\geq 90\%$
顏色一致性 Colour consistency	4	≤ 6 (在穩定時間後及在6 000小時後量度)
顯色指數 Colour rendering index	83	≥ 80 (在穩定時間後及在6 000小時後量度)
位移因數 Displacement factor	0.64	不適用 Not applicable
開關循環 Number of switching cycles	12 500	超過或等於額定電燈壽命的一半 (以小時計) \geq half the rated lamp life expressed in hours.



5. 能源標籤的規格 Specification of Energy Label

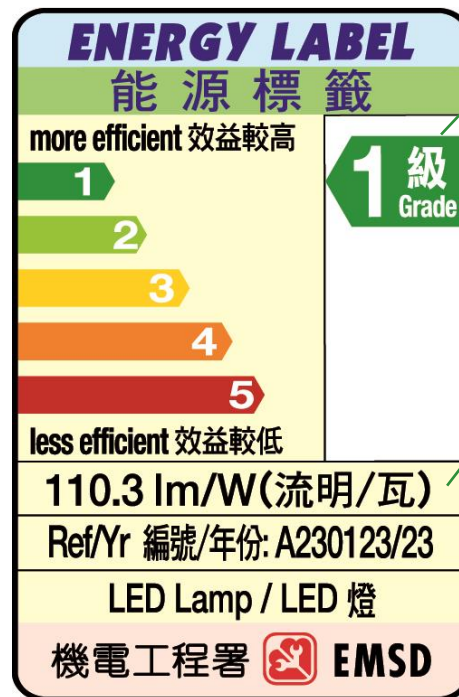


LED燈
LED Lamps

- 詳情請參閱第598章《能源效益(產品標籤)條例》附表2

For details, please refer to Schedule 2, Cap. 598 Energy Efficiency (Labelling of Products) Ordinance

- ① 能源標籤的顏色及設計
Colour and design of the energy label
- ② 能源標籤的尺寸
Dimensions of the energy label
- ③ 能源標籤須載有的資料
Information to be contained on the label
- ④ 印於能源標籤上的文字的字體規格
Specifications for the font size of the words printed on the energy label



能源效益級別 Energy Efficiency Grade

1級能源效益最高 (綠色) · 5級則最低 (紅色)
Grade 1 products are most efficient (Green) and
Grade 5 products are least efficient (Red)

電燈發光效率 Lamp luminous efficacy

數值越高代表燈膽能效越高
The higher the value, the more efficient the lamp.



5. 能源標籤的規格 Specification of Energy Label



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LED Lamps

LED燈的能源標籤的大小，須按照以下準則挑選 —

The size of the LED lamp energy label is to be chosen in accordance with the following criteria —

《條例》附表2第10部第6條 Section 6, Part 10, Schedule 2 of the Ordinance

- 能源標籤須由最少闊2毫米的空白邊框圍繞，而其遮蓋產品包裝最大一面的範圍，不得超過該面的表面面積的50%。如能夠符合這規定，則須挑選指明尺寸 (i.e. **44mm x 65mm**)。

The energy label is to be encircled by a blank border that is at least 2 mm wide, and it must not cover more than 50% of the surface area of the largest side of the product packaging. If it can be complied with the above requirements by choosing that size, the size specified is to be chosen (i.e. **44mm x 65mm**).

- 如挑選最大標籤尺寸不能符合上述規定，則須從以下大小之中，挑選最大而符合 (a)段規定者 — 最大標籤尺寸的90%、80%、70% 或 60%。

If the above requirements cannot be complied with by choosing the specified label size, then the largest of the following sizes that complies with the above requirements is to be chosen— 90%, 80%, 70% or 60% of the specified label size.



2. 涵蓋範圍 Scope



氣體煮食爐
Gas Cookers

• 氣體煮食爐 ——

a) 指符合以下說明的產品 ——

- (i) 屬《氣體安全(裝置及使用)規例》(第51章，附屬法例C)第2條所界定的**住宅式氣體用具**；
- (ii) 產品 —設計作藉燃燒煤氣或石油氣(兩者均為《氣體安全條例》(第51章)第2條所界定者)，**產生火焰供煮食用**；及
- (iii) 該—
 - a) 屬嵌入式或座枱式；及
 - b) 每個燃燒器的額定熱負荷，**不超過7千瓦**；但

b) 不包括手提卡式煮食爐。

• Gas cooker —

a) means a product—

- (i) that is a **domestic gas appliance** as defined by regulation 2 of the Gas Safety (Installation and Use) Regulations (Cap. 51 sub. leg. C);
- (ii) that is designed for **producing flames for cooking** by burning town gas, or liquefied petroleum gas, as defined by section 2 of the Gas Safety Ordinance (Cap. 51); and
- (iii) that—

- a) is of either built-in type or tabletop type; and
- b) has a rated heat input **not exceeding 7 kilowatts** for each burner; but

b) does not include a portable cassette cooker.



氣體煮食爐
Gas Cookers

3. 測試要求 Test Requirements

- 測試標準 Test standard:

GB 30720-2014 《家用燃氣灶具能效限定值及能效等級》

Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades for Domestic Gas Cooking Appliances

- 要求進行的能源效益表現測試:

Energy efficiency performance tests required to be carried out:

1. 每一個燃燒器的**熱負荷**測試 (數值須以高熱值顯示) ; 以及
Heat input test for each burner (in which values shall be expressed in **GCV**); and
2. 每一個燃燒器的**熱效率**測試 (數值須以低熱值顯示) 。
Thermal efficiency test for each burner (in which values shall be expressed in **NCV**).



3. 測試要求 Test Requirements

- 基準氣體的成分及測試條件 Compositions of Reference Gases and Test Conditions

基準氣體 Reference Gases	成分Composition (所佔體積百分比) (% by Volume) (僅供參考) (For reference only)	華白系數 Wobbe Index (兆焦耳 / 立方米) (MJ/m ³) (高熱值) (GCV)	額定測試壓力 Nominal Pressure (千帕斯卡) (kPa)
煤氣 Town gas	氫 (H ₂) : 50.5% , 甲烷 (CH ₄) : 29.2% , 二氧化碳 (CO ₂) : 17.4% , 一氧化碳 (CO) : 1.2% , 空氣 (Air) : 1.7%	24.65	1.5
石油氣 Liquefied petroleum gas (LPG)	丙烷 (C ₃ H ₈) : 30% , 丁烷 (C ₄ H ₁₀) : 70%	84.17	2.9

測試實際採用的測試氣體，其華白系數與基準氣體的華白系數誤差值須在±2%範圍內。

The Wobbe Index of the test gas adopted for testing shall be within a tolerance of ±2% as compared to the Wobbe Index of the reference gas.

3. 測試要求 Test Requirements



氣體煮食爐
Gas Cookers

- 有關型號須符合以下表現規定：

The concerned model shall conform with the following performance requirements:

- (a) 每個燃燒器量度所得的熱負荷，不得低於每個燃燒器額定熱負荷的90%，或高於每個燃燒器額定熱負荷的110%；以及

The measured heat input of each burner shall be neither less than 90% nor greater than 110% of the rated heat input of each burner; and

- (b) 每個計算出的熱效率須符合守則的規定。

The thermal efficiency calculated shall meet the requirements as stipulated in the Code.



氣體煮食爐
Gas Cookers

4. 能源效益評級

Energy Efficiency Grading

- 熱效率測試須遵照GB30720進行，而用作測試的相關**測試用鍋**須符合**GB30720附件C所訂明的要求及尺寸**或署長批准的其他同等國際標準。

The thermal efficiency test shall be conducted in accordance with GB 30720 and the corresponding test pans used for the test shall satisfy the requirements and the size specification in Annex C of GB 30720, or other equivalent international standards approved by the Director.

- 根據GB30720並按燃燒器量度所得的熱負荷揀選兩個大小不同的測試用鍋進行測試，較大的為**上限鍋**，較小的為**下限鍋**。以該兩個測試用鍋分別進行熱效率測試，其計算方法如下：
Two test pans of different sizes, namely **upper and lower limit pans**, shall be selected by the measured heat input of the burner in accordance with GB 30720. The test shall be conducted with each test pan individually and the thermal efficiency is calculated as follows:

$$\eta = \frac{M \times c \times (t_2 - t_1)}{V \times Q} \times \frac{273 + t_g}{288} \times \frac{101.3}{p_{amb} + p_m - s} \times 100 \dots \dots \text{(eq. 1)}$$

$$M = M_1 + 0.213M_2 \dots \dots \text{(eq. 2)}$$

η	= 量度所得的熱效率 (%) ; Measured thermal efficiency (%);
M	= 按方程式2(eq. 2)計算所得的數值 : (a)實際加水質量及(b)鋁測試鍋質量 (千克) ; The value calculated in (eq. 2): the sum of (a) mass of water added and (b) mass of the aluminium test pan (kg);
c	= 水的比熱容，即 $c = 4.19 \times 10^{-3}$ (兆焦耳 / (千克·攝氏溫度)) ; Specific heat capacity of water, i.e. $c = 4.19 \times 10^{-3} \text{ (MJ)/(kg} \cdot \text{°C)}$;
t_1	= 水的初始溫度 (攝氏) ; Initial water temperature (°C);
t_2	= 水的最終溫度 (攝氏) ; Final water temperature (°C);
V	= 測試氣體消耗量 (立方米) ; Test gas consumed (m ³);
Q	= 在攝氏15度和101.3千帕斯卡狀態下的氣體輸入熱量 (低熱值) (兆焦耳 / 立方米) ; Thermal input (NCV) of the test gas at 15°C, 101.3kPa (MJ/m ³);
t_g	= 測試時氣體流量計內的氣體溫度 (攝氏) ; Temperature of gas in the gas flow meter at the time of measurement (°C);
p_{amb}	= 測試時的大氣壓力 (千帕斯卡) ; Atmospheric pressure at the time of measurement (kPa);
p_m	= 測試時氣體流量計內的靜壓 (千帕斯卡) ; Static pressure on the gas flow meter at the time of measurement (kPa);
s	= 溫度為 t_g 時的飽和水蒸氣壓力 (千帕斯卡) ; 如使用乾式氣體流量計測量， s 值則應乘以氣體的相對濕度，以作修正； Saturated water vapour pressure at t_g (kPa); if a dry gas flow meter is used, s should be corrected by multiplying the relative humidity of the test gas;
M_1	= 加入鋁鍋的水質量 (千克) ; 以及 Mass of the water added into the pan (kg); and
M_2	= 鋁鍋質量 (包括鍋蓋及攪拌器) (千克) ; Mass of the aluminium test pan (including the cover and the stirrer) (kg);

4. 能源效益評級 Energy Efficiency Grading



氣體煮食爐
Gas Cookers

- 燃燒器的能源效益評級，須按方程式3 (eq.3) 計算得的熱效率來釐定。
The energy efficiency grading of a burner is determined by the thermal efficiency of the burner calculated in eq. 3.
- 所呈交的測試報告必須載有根據方程式1至3 (eq.1 to 3) 進行的相關測試所採用的數據及所得結果，以說明量度所得的熱效率的計算方法。
The test report to be submitted shall contain relevant test data adopted and results obtained in accordance with eq. 1 to eq. 3 for illustrating the calculation of the measured thermal efficiency.
- 以上限鍋及下限鍋量度所得的熱效率，計算燃燒器的熱效率如下：
By using the upper limit pan and the lower limit pan, the thermal efficiency of a burner is calculated as follows:

$$\eta = \eta_{lower} + \frac{q_{lower} - 5.47}{q_{lower} - q_{upper}} \times (\eta_{upper} - \eta_{lower}) \dots \dots \text{(eq. 3)}$$

η	=	熱效率 (%) ; Thermal efficiency (%) ;
η_{lower}	=	以下限鍋量度所得的熱效率 (%) ; Measured thermal efficiency by using the lower limit pan (%) ;
η_{upper}	=	以上限鍋量度所得的熱效率 (%) ; Measured thermal efficiency by using the upper limit pan (%) ;
q_{lower}	=	下限鍋底的熱強度* (瓦 / 平方厘米) ; 及 Thermal intensity* at the bottom of the lower limit pan (W/cm ²) ;
q_{upper}	=	上限鍋底的熱強度* (瓦 / 平方厘米) 。 Thermal intensity* at the bottom of the upper limit pan (W/cm ²) .
*熱強度 = 量度所得的熱負荷 (瓦) / 鍋底面積 (平方厘米)		
*Thermal intensity = measured power (W)/ area of the bottom of the test pan (cm ²)		



氣體煮食爐
Gas Cookers

4. 能源效益評級 Energy Efficiency Grading

- 能源效益級別的釐定
Derivation of Energy Efficiency Grades

氣體煮食爐類型 Gas Cooker Types	熱效率 Thermal Efficiency (%)				
	第1級 Grade 1	第2級 Grade 2	第3級 Grade 3	第4級 Grade 4	第5級 Grade 5
座枱式 Table-top	≥ 66	≥ 62	≥ 58	≥ 54	< 54
嵌入式 Built-in	≥ 63	≥ 59	≥ 55	≥ 51	< 51

註 Note:

若氣體煮食爐有兩個或以上的燃燒器，該煮食爐將根據最低熱效率值的燃燒器來釐定整體能源效益級別。

For a gas cooker with two or more burners, the lowest energy efficiency grade among all burners is used to determine the overall energy efficiency grading.

5. 能源標籤的規格 Specification of Energy Label

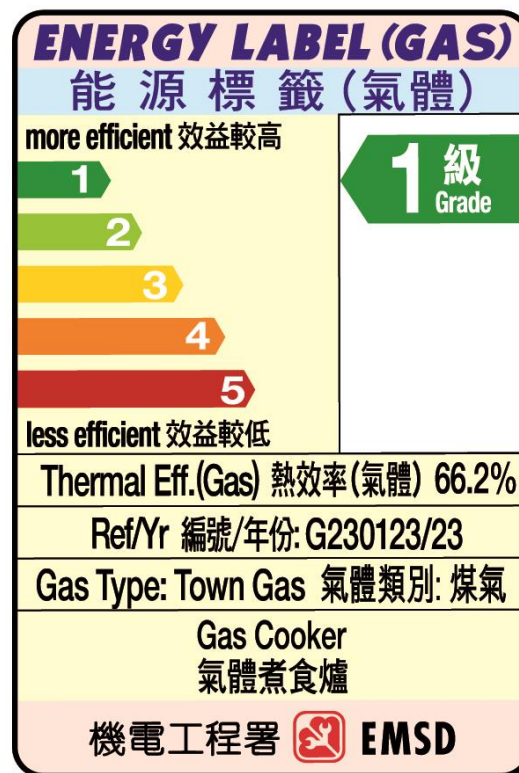


氣體煮食爐
Gas Cookers

- 詳情請參閱第598章《能源效益(產品標籤)條例》附表2

For details, please refer to Schedule 2, Cap. 598 Energy Efficiency (Labelling of Products) Ordinance

- ① 能源標籤的顏色及設計
Colour and design of the energy label
- ② 能源標籤的尺寸
Dimensions of the energy label
- ③ 能源標籤須載有的資料
Information to be contained on the label
- ④ 印於能源標籤上的文字的字體規格
Specifications for the font size of the words printed on the energy label



能源效益級別 Energy Efficiency Grade

1級能源效益最高 (綠色) · 5級則最低 (紅色)
Grade 1 products are most efficient (Green) and
Grade 5 products are least efficient (Red)

熱效率 Thermal efficiency

數值越高代表氣體煮食爐能效越高
The higher the value, the more efficient the gas cooker.



2. 涵蓋範圍 Scope



即熱式氣體熱水爐
Gas Instantaneous Water Heaters

- 即熱式氣體熱水爐 指符合以下說明的產品 ——
 - a) 屬《氣體安全(裝置及使用)規例》(第51章，附屬法例C)第2條所界定的**住宅式氣體用具**；
 - b) 該產品 ——
 - (i) 設計作藉燃燒煤氣或石油氣(兩者均為《氣體安全條例》(第51章)第2條所界定者)，**將流經該產品的熱交換器的水加熱**；及
 - (ii) 設有裝置，因應水流而控制氣體流量；及
 - c) 該產品的額定熱負荷，**不超過70千瓦**。
- Gas instantaneous water heater means a product—
 - a) that is a **domestic gas appliance** as defined by regulation 2 of the Gas Safety (Installation and Use) Regulations (Cap. 51 sub. leg. C);
 - b) that—
 - (i) is designed for **heating water that flows through the product's heat exchanger** by burning town gas, or liquefied petroleum gas, as defined by section 2 of the Gas Safety Ordinance (Cap. 51); and
 - (ii) has a mechanism to control gas passage relative to water flow; and
 - (iii) that has a rated heat input **not exceeding 70 kilowatts**.



即熱式氣體熱水爐
Gas Instantaneous Water Heaters

3. 測試要求 Test Requirements

- 測試標準 Test standard:

GB 20665-2015 《家用燃氣快速熱水器和燃氣採暖熱水爐能效限定值及能效等級》

Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades for Domestic Gas Instantaneous Water Heaters and Gas Fired Heating and Hot Water Combi-boilers

- 要求進行的能源效益表現測試:

Energy efficiency performance tests required to be carried out:

1. 熱負荷測試 (數值須以高熱值顯示) ; 以及

Heat input test (in which values shall be expressed in GCV); and

2. 熱效率測試 (數值須以低熱值顯示) 。

Thermal efficiency test (in which values shall be expressed in NCV).



3. 測試要求 Test Requirements

- 基準氣體的成分及測試條件 Compositions of Reference Gases and Test Conditions

基準氣體 Reference Gases	成分Composition (所佔體積百分比) (% by Volume) (僅供參考) (For reference only)	華白系數 Wobbe Index (兆焦耳 / 立方米) (MJ/m ³) (高熱值) (GCV)	額定測試壓力 Nominal Pressure (千帕斯卡) (kPa)
煤氣 Town gas	氫 (H ₂) : 50.5% , 甲烷 (CH ₄) : 29.2% , 二氧化碳 (CO ₂) : 17.4% , 一氧化碳 (CO) : 1.2% , 空氣 (Air) : 1.7%	24.65	1.5
石油氣 Liquefied petroleum gas (LPG)	丙烷 (C ₃ H ₈) : 30% , 丁烷 (C ₄ H ₁₀) : 70%	84.17	2.9

測試實際採用的測試氣體，其華白系數與基準氣體的華白系數誤差值須在±2%範圍內。

The Wobbe Index of the test gas adopted for testing shall be within a tolerance of ±2% as compared to the Wobbe Index of the reference gas.

3. 測試要求 Test Requirements



即熱式氣體熱水爐
Gas Instantaneous Water Heaters

- 有關型號須符合以下表現規定：

The concerned model shall conform with the following performance requirements:

- (a) 量度所得的熱負荷，不得低於熱水爐額定熱負荷的90%，或高於其額定熱負荷的110%；以及
The measured **heat input** shall be **neither less than 90% nor greater than 110% of the rated heat input of the heater.**
- (b) 計算出的熱效率須符合守則的規定。
The thermal efficiency calculated shall meet the requirements as stipulated in the Code.



即熱式氣體熱水爐
Gas Instantaneous Water Heaters

4. 能源效益評級 Energy Efficiency Grading

- 熱效率測試須遵照GB 20665或署長批准的其他同等國際標準進行。須在滿載功率和半載功率的狀態下進行測試，計算方式如下：

The thermal efficiency test shall be conducted in accordance with GB 20665 or other equivalent international standards approved by the Director.

The test shall be conducted at 100% load and 50% load condition and be calculated as follows:

$$\eta = \frac{M \times c \times (t_{w2} - t_{w1})}{V \times Q} \times \frac{273 + t_g}{273} \times \frac{101.3}{P_{amb} + P_g - S} \times 100$$

η	= 熱效率 (%) ; Thermal efficiency (%)
c	= 水的比熱容 · 即 $c = 4.19 \times 10^{-3}$ (兆焦耳 / (千克·攝氏溫度)) Specific heat capacity of water, i.e. $c = 4.19 \times 10^{-3} (MJ/(kg \cdot ^\circ C))$;
M	= 熱水流量 (千克 / 分鐘) ; Flow rate of hot water (kg/min);
t_{w2}	= 出水溫度 (攝氏) ; Temperature of water outlet ($^\circ C$);
t_{w1}	= 入水溫度 (攝氏) ; Temperature of water inlet ($^\circ C$);
Q	= 測試氣體的燃氣輸入熱量 (低熱值) (兆焦耳 / 立方米) ; Thermal input (NCV) of the test gas (MJ/m^3);
V	= 測試氣體的流量 (立方米 / 分鐘) ; Flow rate of the test gas (m^3/min);
t_g	= 量度時氣體流量計內的氣體溫度 (攝氏) ; Temperature of gas in the gas flow meter at the time of measurement ($^\circ C$);
P_{amb}	= 測試時的大氣壓力 (千帕斯卡) ; Atmospheric pressure during testing (kPa);
P_g	= 測試時氣體流量計量得的氣體壓力 (千帕斯卡) ; 以及 Gas pressure measured by the gas flow meter during testing (kPa); and
S	= 溫度為 t_g 時的飽和水蒸氣壓力 (千帕斯卡) ; 如使用乾式氣體流量計測量 · s 值應乘以測試氣體的相對濕度 · 以作調整 ; Saturated water vapour pressure at t_g (kPa); if a dry gas flow meter is used, s should be adjusted by multiplying the relative humidity of the test gas;

4. 能源效益評級 Energy Efficiency Grading



即熱式氣體熱水爐
Gas Instantaneous Water Heaters

GB20665-2015

5.1 家用燃气快速热水器

家用燃气快速热水器的试验条件除符合以下条件外,其他试验条件应符合 GB 6932—2001 的有关规定。

- a) 试验室环境温度为 20 °C ± 5 °C;
- b) 进水口冷水温度为 20 °C ± 2 °C。

测定额定热负荷热效率时,试验方法按 GB 6932—2001 的表 26 进行。测定 50% 的额定热负荷热效率时,调节出水温度比进水温度高 20 K ± 1 K,其他试验方法按 GB 6932—2001 的表 26 进行。

GB6932-2001: Reference temperature is at 0oC

表 26 热水性能试验

项 目	热水器状态、试验条件及方法
1. 热效率	<p>a) 试验条件及热水器的状态按表 13</p> <p>b) 试验方法:在热水器运行 15 min,当出热水温度稳定后,测定在燃气流量计上的指针转动一周以上的整数时出水量,热效率按下列公式计算:</p> $\eta_t = \frac{M \times C(t_{w2} - t_{w1})}{V \times Q_1} \times \frac{273 + t_g}{273} \times \frac{101.3}{p_{amb} + p_g - S} \times 100$ <p>式中: η_t——温升 $t (=t_{w2} - t_{w1})$K 时的热效率, %;</p> <p>C——水的比热, 4.19×10^{-3} MJ/kg · K;</p> <p>M——出水量, kg/min;</p> <p>t_{w2}——出热水温度, C;</p> <p>t_{w1}——进水温度, C;</p> <p>Q_1——实测燃气低热值, MJ/Nm³;</p> <p>V——实测燃气流量, m³/min;</p> <p>t_g——试验时流量计内的燃气温度, C;</p> <p>p_{amb}——试验时的大气压力, kPa;</p> <p>p_g——试验时热水器前燃气压力, kPa;</p> <p>S——温度 t_g C 时饱和水蒸气压力, kPa(当使用干式流量计测量时, S 值应乘以试验燃气的相对湿度进行修正)</p>

Comparison: GB6932-2015: Reference temperature is at 15oC

序号	项目	热水器状态、试验条件及方法
1	热效率(按低热值)	<p>(1) 额定热负荷热效率:</p> <p>a) 试验条件及热水器状态按表 12。</p> <p>b) 试验方法:热水器运行 15 min,当出热水温度稳定后,测定在燃气流量计上的指针转动一周以上的整数时出水量。热效率按式(6)计算。</p> $\eta_t = \frac{MC(t_{w2} - t_{w1})}{VQ_1} \times \frac{(273 + t_g)}{288} \times \frac{101.3}{(P_a + P_g - S)} \times 100\%$ <p>式中:</p> <p>η_t——产热水温度 $t (=t_{w2} - t_{w1})$K 时的热效率;</p> <p>C——水的比热, 4.19×10^{-3} MJ/(kg · K);</p> <p>M——出水量,单位为千克每分(kg/min);</p> <p>t_{w2}——出热水温度,单位为摄氏度(°C);</p> <p>t_{w1}——进水温度,单位为摄氏度(°C);</p> <p>Q_1——实测燃气低热值,单位为兆焦每立方米(MJ/m³);</p> <p>V——实测燃气流量,单位为立方米每分(m³/min);</p> <p>t_g——试验时燃气流量计内的燃气温度,单位为摄氏度(°C);</p> <p>P_a——试验时的大气压力,单位为千帕(kPa);</p> <p>P_g——试验时燃气流量计内燃气压力,单位为千帕(kPa);</p> <p>S——温度 t_g °C 时饱和水蒸气压力,单位为千帕(kPa),(当使用干式流量计测量时, S 值应乘以试验燃气的相对湿度进行修正)</p>





即熱式氣體熱水爐
Gas Instantaneous Water Heaters

4. 能源效益評級 Energy Efficiency Grading

能源效益級別的釐定 Derivation of Energy Efficiency Grades

熱效率 Thermal Efficiency (%)		第1級 Grade 1	第2級 Grade 2	第3級 Grade 3	第4級 Grade 4	第5級 Grade 5
在滿載功率和半載功率的狀態下量度： Measured at 100% load and 50% load:	η_1	≥ 92	≥ 89	≥ 86	≥ 83	< 83
η_1 : 熱效率較高值 (在滿載功率或半載功率的狀態下均可) Thermal efficiency of higher value (either at 100% load or 50% load)	η_2	≥ 88	≥ 85	≥ 82	≥ 79	< 79
η_2 : 熱效率較低值 (在滿載功率或半載功率的狀態下均可) Thermal efficiency of lower value (either at 100% load or 50% load)						

註 Notes:

- a) 當 η_1 和 η_2 達到**同一級別**，即熱式氣體熱水爐會相應地**獲得同一級別的能源效益評級**。
When both η_1 and η_2 attain **the same grade**, **the same energy efficiency grading** of a gas instantaneous water heater will be assigned correspondingly.
- b) 當 η_1 和 η_2 達到**不同級別**，即熱式氣體熱水爐會相應地**獲得較低的能源效益評級**。
When η_1 and η_2 attain **different grades**, **the lower energy efficiency grading** of a gas instantaneous water heater will be assigned correspondingly.

5. 能源標籤的規格 Specification of Energy Label

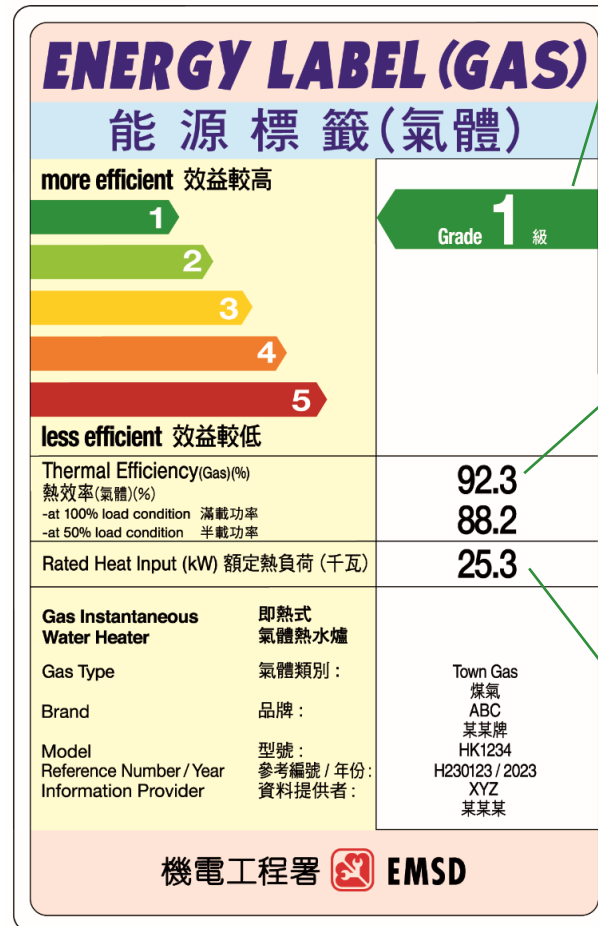


即熱式氣體熱水爐
Gas Instantaneous Water Heaters

- 詳情請參閱第598章《能源效益(產品標籤)條例》附表2

For details, please refer to Schedule 2, Cap. 598 Energy Efficiency (Labelling of Products) Ordinance

- ① 能源標籤的顏色及設計
Colour and design of the energy label
- ② 能源標籤的尺寸
Dimensions of the energy label
- ③ 能源標籤須載有的資料
Information to be contained on the label
- ④ 印於能源標籤上的文字的字體規格
Specifications for the font size of the words printed on the energy label



能源效益級別

Energy Efficiency Grade

1級能源效益最高 (綠色) · 5級則最低 (紅色)
Grade 1 products are most efficient (Green) and Grade 5 products are least efficient (Red)

在滿載功率和半載功率下的熱效率

Thermal efficiency at 100% and 50% load conditions

數值越高代表即熱式氣體熱水爐能效越高
The higher the value, the more efficient the Gas Instantaneous Water Heaters.

額定熱負荷

Rated heat input

6. 過渡期安排 Transitional Arrangement

* 建議供應商在全面實施前完成處理現有存貨，以避免令人產生混亂。

It is advised that suppliers should clear existing stock before full implementation in order to avoid causing confusion to consumers.

如有證明提出令署長信納，某新訂明產品在生效日期前：

- 1) 已在香港製造或已進口香港；或
 - 2) 已就供應給新落成處所訂立採購合約。
- 進口商可繼續供應這些沒有參考編號及能源標籤的訂明產品。

If it is proved to the satisfaction of the Director, a new prescribed product that before the commencement date:-

- 1) has been manufactured in or imported into Hong Kong; or
- 2) which the contract has been entered into for disposition of any newly completed premises.

Importers can continue to supply these prescribed products without reference number and energy label.



6. 過渡期安排 Transitional Arrangement

進口商或本地製造商的責任 Obligations of Importers and Local Manufacturers

- * 為配合全面實施，有關產品型號獲參考編號後，製造商或進口商可於過渡期內在貼上能源標籤，並在本港供應產品。
To facilitate the full implementation, manufacturers or importers can supply a product with an energy label in Hong Kong after it has been assigned a reference number during the transitional period.

呈交新產品資料

New Product Information Submission

- 填妥的表格1 - 呈交指明資料及指明文件

Duly completed Form 1 – Submission of Specified Information and Specified Documents

- 由認可實驗所發出的產品測試報告
Product test report issued by recognised laboratory
- 能源效益級別計算方法和其他輔助技術資料
Energy efficiency grading calculations and other supporting technical information

呈交已根據自願性能源效益標籤計劃

註冊的產品型號的資料

Information Submission for Product Model Already Registered in Voluntary Energy Efficiency Labelling Scheme

- 填妥的表格2 - 呈交已在自願性能源效益標籤計劃註冊產品的資料

Duly completed Form 2 – Information Submission for Product Model Already Registered in Voluntary Energy Efficiency Labelling Scheme

- 能源效益級別計算方法
Energy efficiency grading calculations
- 其他輔助技術資料
Other supporting technical information

生效日期

Commencement Date

2023年9月1日

1 Sept 2023

全面實施

Full Implementation

2024年12月1日

1 Dec 2024

生效日期前 Before Commencement Date

15個月過渡期 15-month Transitional Period

機電工程署
EMSD



6. 過渡期安排 Transitional Arrangement

供應商的責任 Obligations of Suppliers

在過渡期過後，本港所有供應商(包括製造商、進口商、批發商、零售商等)

供應的訂明產品必須屬已獲機電工程署編配參考編號的型號，並附有指明規格的能源標籤。

After the transitional period, all local suppliers (including manufacturers, importers, wholesalers, retailers, etc.)

shall supply a prescribed product which is of model having a reference number assigned by EMSD and bears a specified energy label

生效日期
Commencement Date
2023年9月1日
1 Sept 2023

全面實施
Full Implementation
2024年12月1日
1 Dec 2024

生效日期前 Before Commencement Date

15個月過渡期 15-month Transitional Period

6. 過渡期安排結束 End of Transitional Arrangement

任何人如違反條例的規定，供應沒有能源標籤或屬非表列型號的訂明產品，可處罰款10萬元。

Any person who contravenes the Ordinance by supplying a prescribed product without energy label or a prescribed product of non-listed model is liable to a fine of \$100,000.

生效日期
Commencement Date
2023年9月1日
1 Sept 2023

全面實施
Full Implementation
2024年12月1日
1 Dec 2024

執行
Enforcement

生效日期前 Before Commencement Date

15個月過渡期 15-month Transitional Period



進口商或本地製造商的責任

Obligations of Importers and Local Manufacturers

1. 在供應訂明產品前，呈交產品資料（包括測試報告）
2. 按《條例》及獲編配參考編號等資料貼上能源標籤
3. 確保訂明產品的能效及功能特性符合向機電工程署所呈交的該等資料
4. 如向機電工程署呈交的資料(如：功能特性、測試報告等)有所改變，須在改變後21日內以書面通知機電工程署
5. 如該型號被改動的程度使其能源效益及功能特性與所呈交者不同，須為該經改動型號取得新的參考編號。
6. 每隔不超過5年呈交產品最新資料

其他供應商（進口商及本地製造商以外的人）的責任

1. 強制性能源效益標籤計劃第四階段已經於2023年9月1日生效，並設有15個月過渡期，將於2024年12月1日全面實施。涵蓋範圍擴展至LED燈、氣體煮食爐及即熱式氣體熱水爐，合共規管11類器具。
2. 其餘三階段的8類產品包括空調機、冷凍器具、緊湊型熒光燈（慳電膽）、洗衣機、抽濕機、電視機、儲水式電熱水器及電磁爐都必須屬已獲編配參考編號的表列型號，並附有指明規格的能源標籤。
3. 零售商應確保所供應（包括展示）的以上產品已屬表列型號及已貼上能源標籤。建議售商在供應產品前應先了解產品是否屬強制性能源效益標籤計劃涵蓋類別及《能源效益（產品標籤）條例》相關的要求。
4. 任何人如違反上述規定，即屬犯罪，一經定罪，可處最高罰款10萬元。

7. 推行進展及申請注意事項

Implementation Progress and Notes to Application

Publicity work will be applied for the full implementation of the Phase IV of the MEELS
 就標籤計劃第四階段全面實施的宣傳工作會持續進行

巴士車身廣告 / Bus Body Advertisement



港鐵廣告 / MTR Advertisement



電視宣傳片 / TV Advertisement



社交平台 / Social Media

機智啤啤 Witty Bear
 18 January · 🌐
 【🔥新·能源效益評級標準】
 🐻：點解冬天都咁熱㗎🐻，我之前嚟旺角真咁件外套🐻仲未有機會拎出嚟著啊🐻

大唯鬼 Big Waster
 【又有新 Sticker 推出喇🐻🐻🐻】

啊！唔係！係 Label 先啱~ 講緊嘅係 #強制性能源效益標籤 啊~ 由 2021 年 12 月 31 號起，#窗式空調機🐻、#抽濕機🐻同 #節能燈泡🐻 嘅能源標籤評級標準都提升咗🐻

重新評級之後，會換上「U2」標籤以作識別🐻 部份電器嘅能源效益級別可能會有所調整，不過，唔使阿鬼講都知，識揀一定揀 #一級能源效益 嘅電器，咁就最慳電喇🐻

有啲新評級嘅能源標籤，除咗慳電🐻又慳錢🐻之外，最重要嘅係可以幫助應對氣候變化🐻，大家都記得跟隨阿鬼嘅腳步🐻，從生活中一齊減碳排放🐻，努力邁向碳中和🐻

#強制性能源效益標籤計劃新級別標準 #慳電大法 #減碳排放 #邁向碳中和 #大唯鬼 #BigWaster

生活時報相片 · 1月5日 04:00 · 🌐
 查看原大



流動應用程式 / Mobile Application



7. 推行進展 及 申請注意事項

Implementation Progress and Notes to Application

Notes to Application

General comments:

1. To include Energy Efficiency Grading Calculations in the test report
2. To ensure the duration of testing and date of issue of the test report are within the validity of the accreditation certificate of the testing laboratory.

LED lamp specific:

1. To specify if the measurement of standby power consumption is applicable to the concerned models.
2. To ensure Declaration of Identity (DoI) is/are provided for any mismatch of the model name across the supporting documents
3. For models with variable colour, please ensure the most consumptive white light setting is applied during the testing
4. For directional lamp, please ensure measurements are taking by using the goniophotometer.

7. 推行進展 及 申請注意事項

Implementation Progress and Notes to Application

Notes to Application

General comments:

1. To include Energy Efficiency Grading Calculations in the test report

Table 5: Energy Efficiency Grading

Model No.:		
Grade	Lamp Luminous Efficacy (lm/W) (X)	Result
1	$X \geq 110$	Measured Luminous Efficacy (E_m) = 543.13 lm/ 6.15 W = 88.3 lm/W; Rated Luminous Efficacy (E_r) = 570lm/ 6.5W =87.7 lm/W; Accordingly to Hong Kong Mandatory Energy Efficiency Labelling Scheme, the Energy Efficiency Grading is determined by the following: $X = E_m$ or E_r , whichever is smaller. Since the $E_r < E_m$, the E_r (87.7 lm/w) is used to determine the energy efficiency grade, the LED lamp is rated as Grade 3 .
2	$110 > X \geq 90$	
3	$90 > X \geq 63$	
4	$63 > X \geq 50$	
5	$50 > X$	

To fulfill the requirement of Section D of Form 1

Section D 丁部: Supporting Documents/Certificates 證明文件 / 證明書

We enclose the following documentation and have put a "✓" against the appropriate box(es).
現附上所需文件，並於空格內加上"✓"號。

<input type="checkbox"/>	Completed product technical information schedule (using the specified format for the corresponding product type) 填寫好的產品技術資料附表 (請用為該產品種類所提供的特定格式)
<input type="checkbox"/>	Test reports for energy efficiency performance 能源效益表現的測試報告
<input type="checkbox"/>	Copy of accreditation certificate for the test laboratory (it shall be valid at the time of testing) 測試實驗室認可證書副本 (在測試時該認可證書應為有效)
<input type="checkbox"/>	If testing was carried out in a laboratory which is not an accredited laboratory: 如果測試在一所非認可的實驗室所進行:
<input type="checkbox"/>	i. Quality system certificate for manufacturer's operation in the laboratory 品質系統證書，證明製造商測試實驗室所根據特定的品質系統運作
<input type="checkbox"/>	ii. Certifying document issued by an independent certification body 獨立認證團體發出的確認文件
<input type="checkbox"/>	iii. Document showing the qualification, experience and assessment procedure of the independent certification body 有關該獨立認證團體的資格、經驗及評估步驟的文件
<input checked="" type="checkbox"/>	Energy Efficiency Grading Calculations 能源效益評級計算
<input type="checkbox"/>	Energy Efficiency Grading Conversion for Refrigerating Appliance (if applicable) 冷凍器具的能源效益評級換算 (如適用)
<input type="checkbox"/>	Original declaration of identity on the product by the manufacturer and the person submitting the specified

LED Lamp

Gas Instantaneous Water Heater

熱效率	額定熱負荷 (低熱值)	能源效益級別的鑑定:					91.06%	1 級
	50%額定熱負荷 (低熱值)	能源效益級別熱效率 (%)	第 1 級	第 2 級	第 3 級	第 4 級		
		在 100%及 50%額定熱負荷狀態下量度:						
		η_1 : 熱效率較高值	≥ 92	≥ 89	≥ 86	≥ 83	< 83	
		η_2 : 熱效率較低值	≥ 88	≥ 85	≥ 82	≥ 79	< 79	92.98%

熱效率 (低熱值)	左眼	能源效益級別的鑑定:					63.63%	2 級
	右眼	氣體烹飪爐類型	熱效率 (%)					
			第 1 級	第 2 級	第 3 級	第 4 級	第 5 級	
	中眼	座台式	≥ 66	≥ 62	≥ 58	≥ 54	< 54	
		嵌入式	≥ 63	≥ 59	≥ 55	≥ 51	< 51	

Gas Cooker



7. 推行進展 及 申請注意事項

Implementation Progress and Notes to Application

Notes to Application

General comments:

- To ensure the duration of testing and date of issue of the test report are within the validity of the accreditation certificate of the testing laboratory.

Test Report

Sample Name	Self-ballasted LED lamp	Test categories	Detection delegation
Model and/or type reference		Trademark	
Applicant's name		Applicant's address	
Postcode		contact information	/
Date of Consignation	2024.05.11	Date of Receipt	2024.05.20
The sample quantity	20 PCS	Description of sample	
Test starting date	2024.05.11	Test completion date	2024.05.20
Detection of address		Sample number	
Test requirements	IEC 62612:2013+AMD1:2015+AMD2:2018 Self-ballasted LED lamps for general lighting services with supply voltages >50V-Performance Requirements		
	Special method and require: /		
Test item	Lamp Power, Displacement factor, Light output, Colour variation categories, Colour rendering index, Lumen maintenance		
Test result	The tested items are qualified. Please see result Special see		
Remark and subcontract info	The primitive data provided by the client		
Advise and explanation	Update Annex 2		

Tested: _____ Check: _____ Approve: _____
 Sign: _____ Sign: _____ Sign: _____
 Date: 2024.08.29 Date: 2024.08.29 Date: 2024.08.29

To reflect the fields of Section C of Form 1

Section C 丙部: Test Laboratory 測試實驗室

If this submission relies on a previously submitted test report, please note the source reference number:
 如果這次呈交的產品依靠過往已呈交的測試報告, 請註明來源參考編號: _____

(Note: declaration of identity on the product by the manufacturer and the person submitting the specified information shall be provided) (注意: 生產商與呈交指明資料的人士須同時提供該產品相同的聲明)

Name of test laboratory 測試實驗室名稱: _____

Address of test laboratory 測試實驗室地址: _____

Test Laboratory accreditation body (if applicable):
 測試實驗室認可機構 (如適用): _____

Registration number of test laboratory (if applicable):
 測試實驗室註冊編號 (如適用): _____

Expiry date of accreditation (dd/mm/yyyy) (if applicable):
 認可的有效日期 (dd/mm/yyyy) (如適用): _____



China National Accreditation Service for Conformity Assessment
 LABORATORY ACCREDITATION CERTIFICATE
 (Registration No. CNAS _____)

(Legal Entity: _____)

is accredited in accordance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake the service described in the schedule attached to this certificate.

The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule forms an integral part of this certificate.

Effective Date: 2024-04-08

Expiry Date: 2029-05-21

Signed on behalf of China National Accreditation Service for Conformity Assessment

Signature: 张朝华

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CMAA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Accreditation Cooperation Mutual Recognition Arrangement (APAC MRA).
 The validity of the certificate can be checked on CNAS website at <http://www.cnas.org.cn/english/findaccreditedbody/index.shtml>.



7. 推行進展 及 申請注意事項

Implementation Progress and Notes to Application

To fulfill section 15.4.5 of the Code of Practice on Energy Labelling of Products

Notes to Application

LED lamp specific:

1. To specify if the measurement of standby power consumption is applicable to the concerned models.

Test items Sample No.	Luminous flux (lm)	Power consumption (W)	Luminous Efficacy (lm/W)	Standby power consumption (W)	Displacement factor DF
1	3865.0	32.73	118.09	N/A	0.97
2	3902.0	34.64	112.64	N/A	0.97
3	3871.9	33.45	115.75	N/A	0.97
4	3876.4	34.63	111.94	N/A	0.97
5	3886.5	34.15	113.81	N/A	0.97
6	3859.9	33.53	115.12	N/A	0.97
7	3914.0	33.15	118.07	N/A	0.97
8	3868.4	33.47	115.58	N/A	0.97
9	3897.0	33.68	115.71	N/A	0.97
10	3859.7	32.70	118.03	N/A	0.97
11	3874.3	34.64	111.84	N/A	0.97
12	3884.4	34.61	112.23	N/A	0.97
13	3904.2	34.59	112.87	N/A	0.97
14	3870.1	34.11	113.46	N/A	0.97
15	3882.2	33.03	117.54	N/A	0.97
16	3848.3	33.49	114.91	N/A	0.97
17	3868.0	33.13	116.75	N/A	0.97
18	3887.5	33.66	115.49	N/A	0.97
19	3868.0	32.97	117.32	N/A	0.97
20	3859.9	34.59	111.59	N/A	0.97
Average	3877.4	33.75	114.94	N/A	0.97
Limit of each sample	Not less than the rated luminous flux by more than 10%	Not exceed the rated power by more than 10%	N	N	N
Limit of average	Not less than the rated luminous flux by more than 7.5%	Not exceed the rated power by more than 7.5%	N	≤ 0.5W	<input type="checkbox"/> Power ≤2W: No requirement; <input type="checkbox"/> 2W< Power ≤5W: DF≥0.4; <input type="checkbox"/> 5W< Power ≤25W: DF≥0.7; <input checked="" type="checkbox"/> Power >25W: DF≥0.9
Verdict	P	P	P	N	P



7. 推行進展 及 申請注意事項 Implementation Progress and Notes to Application

Notes to Application

LED lamp specific:

- 2. To ensure Declaration of Identity (DoI) is/are provided for any mismatch of the model name across the supporting documents

One example is for the sharing of a test report among family of models. The definition as per Cap. 598 is as below:

family of models (型號系列) means a range of models of a prescribed product where in each model—

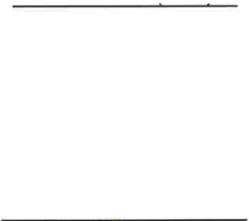
- (a) the physical characteristics that affect the energy efficiency are the same; and*
- (b) the output, energy consumption, energy efficiency and performance characteristics are the same;*

證明書

茲證明 公司產品 與產品 同屬於 系
列產品。兩者：影響能源效益的物質特性均屬相同，輸出、能源耗用量、能源效益及功能特性均屬相同。

Brand	Model	燈頭	屬性	IEC62612 報告編號	EMSD 能源 標籤編號
			影響能源效益的物質 特性均屬相同；輸出、 能源耗用量、能源效益 及功能特性均屬相同		

特此證明



7. 推行進展 及 申請注意事項 Implementation Progress and Notes to Application

To fulfill section 15.4.2(b) of the Code of Practice on Energy Labelling of Products

Notes to Application

LED lamp specific:

3. For models with variable colour, please ensure the most consumptive white light setting is applied during the testing

TEST RESULTS:

2. Performance Test Result

2.6) Summary Table

Description	Rated Life (Hours)	No. of switching cycles required	HKMEELS Requirement	Verdict
Supply Switching Test	15000	15000	7500	P

Description	Grade
Energy Efficiency Grades	2

Remark:

1. The most consumptive white light setting declared by lamp manufacturer: 4000K

***** End of Page *****

7. 推行進展 及 申請注意事項

Implementation Progress and Notes to Application

To reflect the requirement A.3.3 of IEC62612

Notes to Application

LED lamp specific:

4. For directional lamp, please ensure measurements are taking by using the goniophotometer.

A.3.3 Luminous flux

The initial and maintained luminous flux shall be measured after stabilisation of the LED lamp.

In case of directional lamps the luminous flux shall be measured in a solid angle of 90° ($0,6 \pi$ sr). In case of directional lamps having the beam angle greater than 90° , the luminous flux shall be measured in a solid angle of 120° (π sr).

NOTE 1 Method of measuring the luminous flux of LED lamps is under consideration.

NOTE 2 Reference is made to document CIE 84. IES LM-79-08 as well as Annex B of JIS C 8155:2010 contain valuable information on measuring luminous flux.

Luminous flux

The initial and maintained luminous flux shall be measured after stabilization of the LED lamp.

Reference is made to document CIE 84.

In case of directional lamps the luminous flux shall be measured in a solid angle of 90° . In case of directional lamps having the beam angle greater than 90° , the luminous flux shall be measured in a solid angle of 120° . The details of this measurement are as below list:

	Directional	Measured in a solid angle	Use of equipment
Luminous flux	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input checked="" type="checkbox"/> 90° <input type="checkbox"/> 120°	<input type="checkbox"/> Integrating sphere <input checked="" type="checkbox"/> Goniophotometer

Note:

Directional: lamp having at least 80 % luminous flux within a solid angle of 120° .



問與答

Q&A

問一：現在零售商的存貨並沒有能源標籤，可否於全面實施後(即2024年12月1日)繼續出售？

答一：

在寬限期完結後，所有進口商供應第四階段的三類訂明產品須貼有能源效益標籤。關於豁免產品方面，與以往強制性標籤計劃首三個階段的豁免安排相若，有以下兩類：

(a) 在生效日期前(即2023年9月1日)已進口香港的產品，可獲豁免遵守有關呈交資料及附貼標籤的規定。

(b) 如供應給新落成處所的產品的採購合約是在生效日期前(即2023年9月1日)簽署，則該等產品亦獲豁免遵守有關規定。

機電署會在第四階段全面實施前加強宣傳工作，例如：探訪零售商進行宣傳、去信通知有關進口商等，及早讓業界了解有關安排。



問與答

Q&A

答一(續)：

機電署建議進口商/零售商在過渡期完結前完成處理相關豁免產品的貨存，以避免市場混淆；亦會提示進口商/零售商須小心保存相關豁免產品的文件紀錄(如進口紀錄、生產/批次編號)，以清晰區分各時序(如生效日期、過渡期期間及全面實施後等)及方便日後提供資料及文件。

請留意若產品包裝或文件只有生產/批次編號，其資料未能清楚反映該產品是否已於生效日期前(即**2023年9月1日**)進口香港。

進口商應與零售商儘早了解餘貨狀況，小心保存相關豁免產品的文件紀錄。機電署亦建議進口商可填寫較早前致函各進口商的回應表格，提交餘貨及豁免產品的資料(包括型號、數量等)，以便利零售商於機電署人員巡查時作出相關回應。

問與答

Q&A

問二：沒有能源標籤的存貨，可否於全面實施後(即2024年12月1日)捐贈有需要人士？

答二：

按《條例》供應的定義(e)項，不為商業目的而送出的產品則不屬供應。進口商/零售商於捐贈時須留意是否涉及商業目的及利益。

機電署建議進口商/零售商可於全面實施(即2024年12月1日)前整理及完成餘貨的相關安排，包括捐贈。

問與答

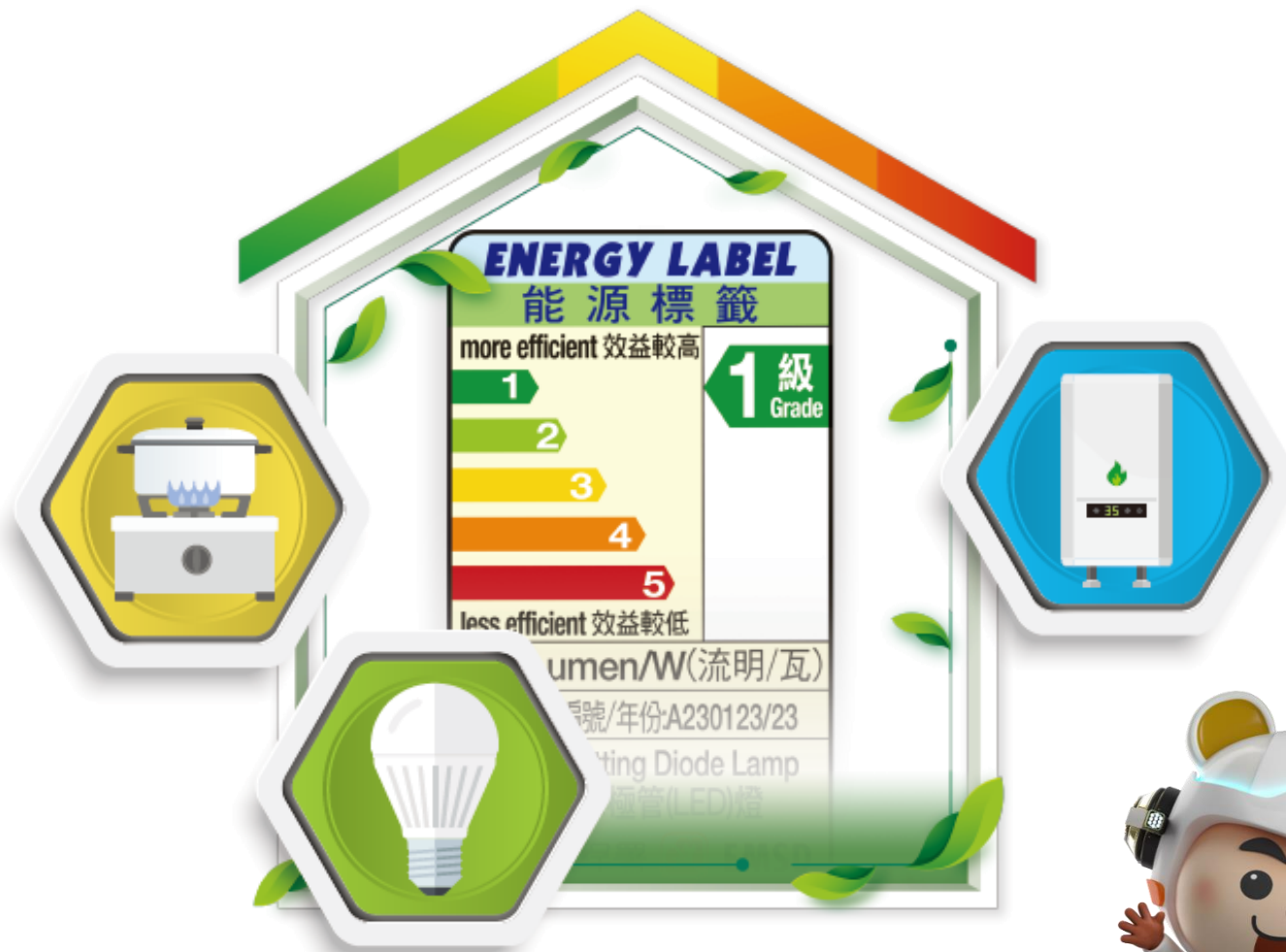
Q&A

問三：沒有能源標籤的存貨，可否於全面實施後(即2024年12月1日)，在香港賣給另一家公司，而該公司則安排該些產品運往香港以外的地方銷售？

答三：

按《條例》第3(2)d段，《條例》不適用於根據在香港訂立的售賣協議而在香港以外地方供應的訂明產品。

機電署建議進口商/零售商可於全面實施(即2024年12月1日)前整理及完成餘貨的相關安排，包括運往香港以外的地方銷售。



謝謝！
Thank You!

