

Air Pollution Control Regulations and Requirements Relating to Restaurant Operation



**Environmental Compliance Division
Environmental Protection Department**





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1. Air Pollution Problems Caused by Restaurants (1)

- The cooking processes such as pan-frying, deep-frying, grilling, or roasting in any restaurant could emit oily cooking fume and odour.
- If the cooking fume and odour are discharged without proper treatment, or if the kitchen exhaust vents are not positioned properly, it would cause air pollution and nuisances.

Cooking Fumes and Odour Complaints from Restaurant Trade and Food Products Manufacturing Industry for the Past 5 Years (2020-2024)

Year	2020	2021	2022	2023	2024
No. of Complaints	661	834	710	920	1 311



Cooking Fume and Odour (1)



Cooking fume is emitted directly to the outdoor without proper treatment



Exhaust outlet is close to residential areas



Cooking Fume and Odour (2)



The exhaust outlet is located in the rear lane such that the cooking fumes and odour are difficult to dissipate.



2. Food and Environmental Hygiene Department – A Guide to Application for Restaurant Licences



<https://www.fehd.gov.hk/english/licensing/guide.html#>

A GUIDE TO APPLICATION FOR RESTAURANT LICENCES

Food and Environmental Hygiene Department

(May 2025 Edition)

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A Guide to Application for Restaurant Licences (1)

Environmental Protection Considerations

48. The design and installation of a ventilating system shall ensure emissions to air from restaurant is free from any visible fumes and objectionable odours as well as not to cause noise disturbance to nearby residents. Details of such requirements are set out in paragraphs 140 to 153 in Part IX.



A Guide to Application for Restaurant Licences (2)

Location of the Restaurant

144. Site constraints, such as the lack of suitable location for cooking fumes outlets, may pose severe difficulty in managing the pollution arising from restaurant operations. The following summarizes the main environmental considerations:

Avoidance of Air Pollution

- (a) Choosing residential block or sites close to residential block as restaurants should be avoided.
- (b) Enough separation distance should be allowed for positioning the exhaust outlet from nearby residents for effective dispersion of cooking fumes/odour to the open air.
- (c) Sufficient space and adequate access should be provided for installation, regular inspection and maintenance of air pollution control equipment.
- (d) Other than the properly designed exhaust system, there should be no free passage in the premises through which cooking fumes and odour could escape to the neighbouring areas.
- (e) Low-emitting stoves such as electric stoves should be used wherever possible, to reduce the emission of air pollutants.



A Guide to Application for Restaurant Licences (3)

Design and Installation of Kitchen Exhaust System

145. Emissions to air from the restaurant should be free from any visible fume and objectionable odour. Cooking stoves and associated pollution control equipment in restaurant kitchens should be designed in such a way that no excessive air pollutant emissions should be generated when in use. The number of cooking stoves should be minimized to cope with the business of the restaurant.

146. Suitable outlet position of the exhaust system and its design are of paramount importance to avoid causing, or contributing to, air pollution to the public. The following summarizes the main considerations involved:

Positioning of Exhaust Outlets

- (a) The outlets should be located at such a place where the ventilation is good and the emissions from them can be adequately dispersed without hindrance.
- (b) Appropriate separation distance from any sensitive neighbouring properties should be allowed to avoid causing a nuisance.
- (c) The emission from the exhaust system should not be restricted or deflected by, for example, the use of plate or caps.
- (d) For the use of diesel oil or solid fuel (though it is highly not recommended), the exhaust chimney should be:
 - i) directed vertically upwards. Advice from environmental professionals on the effectiveness of the system should be sought if an alternative design is to be adopted.
 - ii) preferably extended at least 3 metres above the highest point of the building where the restaurant is located. If any attached or adjacent building within a twenty-metre radius is taller than the source building, the exhaust height should be extended accordingly. If this is not practicable, advice from environmental professionals should be sought to identify an alternative outlet.



A Guide to Application for Restaurant Licences (4)

Design of Exhaust System

- (a) The complete kitchen exhaust system, including the air pollution control equipment, should be properly designed, fabricated and serviced to ensure their performance. The design should always be based on the expected peak load conditions, i.e. the worst case scenario.
- (b) The large amount of oily fumes generated from frying, charbroiling or roasting need to be removed from the extracted air, by efficient air pollution control equipment, before it is discharged into the open air.
- (c) If the exhaust contains a strong odour or the exhaust outlet is in close proximity to any sensitive receptor (such as residential premises and school), high efficiency odour control equipment will also be required.
- (d) In the installation and design of ducting, large extraction fan, condenser for air-conditioner, water scrubber and electrostatic precipitator, it is suggested that a registered specialist contractor (ventilation works category)/Authorized Person/Registered Structural Engineer be consulted to confirm no adverse effect caused to structural suitability, fire escape in respect of the construction, narrowing of the means of escape or reduction of headroom, etc.



A Guide to Application for Restaurant Licences (5)

Operation and Maintenance

153. The operation and maintenance of pollution control equipment (which forms part of the ventilation and exhaust system) is subject to control under the licensing requirements. Licensees should ensure that their pollution control equipment is properly operated and maintained to avoid causing nuisance. The following practices are suggested:

- (a) Operation and servicing of the pollution control equipment should only be carried out by trained and competent staff with sufficient training and relevant skill and should be in accordance with the manufacturers' recommendations or guidance;
- (b) Maintenance and repair of the pollution control equipment should be carried out by competent professionals/contractors;
- (c) Consideration should be given in the design to ensure continuous operation of the pollution control equipment;
- (d) Components should be inspected, cleaned and serviced regularly to ensure proper performance of each component/part;
- (e) Sufficient stock of such materials should be kept in the restaurant to facilitate immediate replacement; and
- (f) Licensees should keep a copy of the operation and maintenance manual as well as the maintenance and repair log book of the pollution control equipment at the restaurant.



3. Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations

- If a restaurant operator needs to install or modify a chimney, stove, or other cooking equipment with total fuel consumption rate more than
 - 25 litres of liquid fuel per hour; or
 - 35 kilograms of solid fuel per hour; or
 - 1150 Megajoules of gaseous fuel per hour.
- Approval from EPD must be obtained before the commencement of works.



Basic Requirements

Location of Exhaust Outlets

- An exhaust outlet should be located in a **well-ventilated** position and where emissions can be **fully dispersed**.
- **Sufficient distance** should be maintained from nearby air sensitive receivers (e.g. domestic premises, schools, etc.) to avoid causing nuisance due to emission of cooking fumes and odour.

Control of Cooking Fume and Odour

- If restaurants carry out frying, grilling, roasting or other cooking processes that may emit a large amount of oily fumes or odour, the grease filters alone would not be effectively removed the cooking fumes or odour. The restaurants concerned must **install high-efficiency air pollution control equipment** to remove oily fumes and odour.



Cooking Fume and Odour Control (1)

Grease Filters

Baffle type



Mesh Filter type



- Preliminary treatment
- Filter out large oil droplets

Hydrovents



- Oil particles be carried away by the water flow whilst passing through the water curtain to remove oil grains and odour



Cooking Fume and Odour Control (2)

Electrostatic Precipitator (EP)

- Collect minute oil droplets of cooking fumes effectively
- Removal efficiency could be up to or above 95%

Hood Type



Duct Type



Control of Cooking Odour

- ✓ Activated Carbon Filter
- ✓ High Performance UV Grease Extraction Hood



4. Air Pollution Control Ordinance

Section 10:

- If cooking fumes and/or odour emitted from restaurants **cause nuisance** to the public, EPD may issue **a legal notice** pursuant to Section 10 of the Air Pollution Control Ordinance to the owner or operator of the restaurant, and required for implementing abatement measures within a specified period of time.



4. Air Pollution Control Ordinance

Section 30:

- For the ventilation system and/or other equipment serving restaurant stoves, owing to:
 - ✎ Unsuitable design, defective construction or maintenance ; or
 - ✎ Excessive wear and tear ; or
 - ✎ The use of unsuitable fuel or other material ; or
 - ✎ Improper operation
- EPD may issue a legal notice pursuant to Section 30 of the Air Pollution Control Ordinance to the owner or operator of restaurant, and required for the implementation of abatement measures within a specified period.



Provisions in Legal Notices

- Implement abatement measures within a specified time limit
- In general, abatement measures include:
 - Retrofitting high efficiency control equipment (e.g. electrostatic precipitator) and control the greasy fumes emitted from cooking processes to ensure the emissions are free from any visible greasy fumes.
 - Retrofitting air pollution control equipment (e.g. activated carbon filter or UV grease extraction hood) and control the odour emitted from cooking processes to ensure the emissions are free from any objectionable odour.
 - **Repairing electrostatic precipitator** to ensure the emissions are free from any visible greasy fumes.
 - **Relocating the exhaust outlet.**



Penalties for Non-compliance of a Legal Notice

- First Conviction: a fine of \$100,000
- Second and Subsequent Conviction: a fine of \$200,000 and imprisonment for 6 months
- On the first or subsequent conviction, to a further fine of \$20,000 for each day that the court is satisfied that the failure to comply with the air pollution abatement notice has continued



5. Prevention is Better than Cure (1)

- Before operating a restaurant, if cooking processes generate a large amount of oily cooking fumes/odour such as grilling, frying and roasting, regardless of the necessity of approval from EPD, high efficiency air pollution control equipment such as hydrovent with electrostatic precipitator should be installed and the exhaust should be positioned with good ventilation and without affecting others.
- Avoid retrospective installation. The retrofitting work will disrupt normal business/operation as well as the already installed equipment may present technical difficulty or improbable.



5. Prevention is Better than Cure (2)

- Consider to cook by electricity. Electrical cooking appliances show following advantages:
 - Lower emission and low carbon (No ignition of fuel)
 - Lower cost (Higher efficiency, better energy effectiveness)
 - Lower kitchen temperature, more comfortable working environment and reducing air-conditioning of kitchen (Less heat will be dissipated to surroundings during cooking)



Electrical Frying Wok



6. Summary

- License Application Requirement: Exhaust emission should be free from
 - visible fumes
 - objectionable odour
 - nuisance to the public
- If the cooking process involves grilling, frying, roasting, etc., which generates greasy fumes/odour, the following should be installed
 - high efficiency control equipment (e.g. Electrostatic Precipitator) to ensure no visible greasy fume is emitted.
 - control equipment (e.g. Activated Carbon Filter, High Performance UV Grease Extraction Hood) to ensure no objectionable odour is emitted.
- Positioning the exhaust with good ventilation and without affecting others



7. Reference Materials (1)

Green Restaurant Web Site



<https://www.epd.gov.hk/epd/english/greenrestaurant/index.html>



7. Reference Materials (2)

Green Restaurant – Guidelines and References



https://www.epd.gov.hk/epd/english/greenrestaurant/guidelines/guidelines_03.html

Cooking Fume Emission Control for Restaurants and Catering Business

Introduction

Oil fume and cooking odour emitted from cooking processes are one of the air pollutants which come under the control of the Air Pollution Control Ordinance. Restaurant owners and operators are required to take appropriate pollution control measures in order to minimize the emission of air pollutants from causing nuisance to the neighbourhood.

This leaflet aims to provide a concise guidance to help the owners and operators of restaurants and catering business understand and apply practical pollution control measures against their cooking fume emission.

Common Cooking Fume Emission Control Equipment

Grease Filter/Metallic Filter	Hydrovent	Electrostatic Precipitator (ESP)
<ul style="list-style-type: none">Filtering out large oil dropletsAs a preliminary treatmentMade of fine synthetic fibres or metal	<ul style="list-style-type: none">Oil particles are carried away by the water flow whilst passing through the water curtainRemoving oil grains and odourHigher oil fume removal efficiency when compared with grease filter	<ul style="list-style-type: none">Including "hood-type" & "back-type"Collecting and removing fine oil particles of the city fumeOil fume removal efficiency up to 90% or aboveApproval by Fire Services Department required

The design of air pollution control equipment should be based on the peak load conditions (i.e. the cooking period when emission of cooking fume is at maximum intensity). A brief comparison of the air pollution control technology and their removal efficiency in controlling city fume emission is shown below for reference.

Oil Fume Removal Efficiency Rate for Single Application of Pollution Control Equipment		Oil Fume Removal Efficiency Rate for Combined Application of Pollution Control Equipment	
Equipment	Removal Efficiency	Equipment	Removal Efficiency
Electrostatic Precipitator	✓	Hydrovent + Electrostatic Precipitator	✓✓✓
Grease Filter (Metallic Filter)	✓	Grease Filter (Metallic Filter) + Electrostatic Precipitator	✓✓✓
Hydrovent	✓		

DID YOU KNOW?

The combined application of two or more types of air pollution control equipment together with suitably located exhaust outlet is now commonly considered as an efficient and effective cooking fume emission control system.



7. Reference Materials (3)

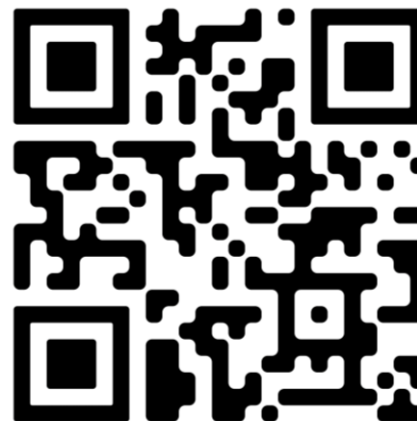
Laws and Licence Application

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Laws and Licence Application

Restaurant Related Environmental Laws and Licence Application Procedures

- Offices of the Environmental Protection Department
- Air Pollution Control Ordinance
- Water Pollution Control Ordinance
- Noise Pollution Control Ordinance
- Waste Disposal Ordinance
- Bilingual Law Information System



<https://www.epd.gov.hk/epd/english/greenrestaurant/law/law.html>

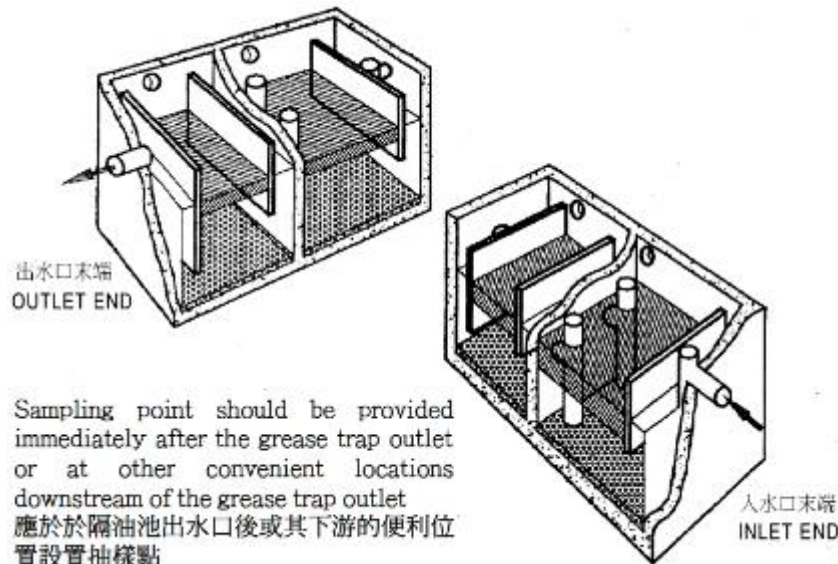


7. Reference Materials (4)

Green Restaurant– Grease Traps for Restaurants and Food Processors

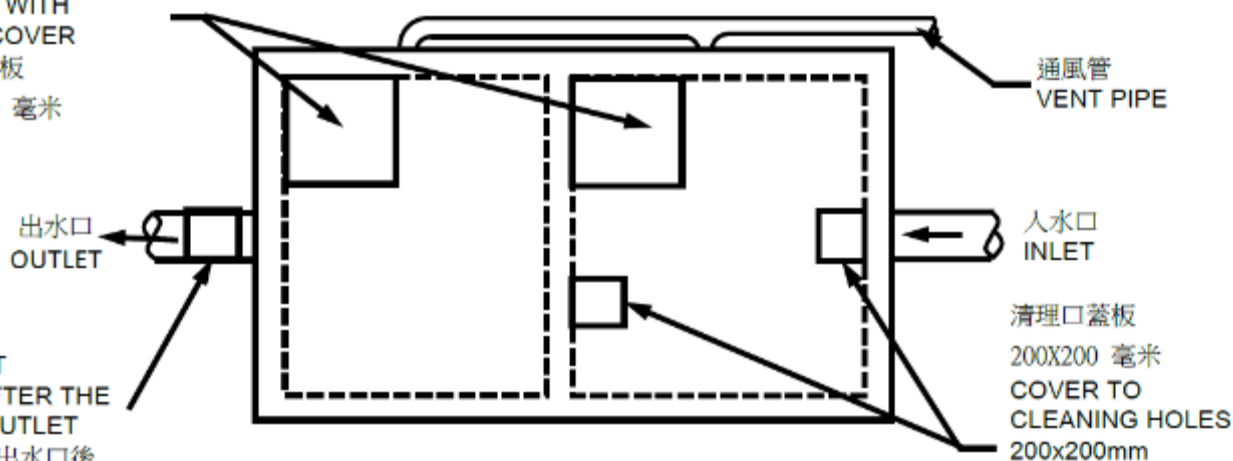


https://www.epd.gov.hk/epd/english/enviro/meninhk/water/guide_ref/guide_wpc_gt.html



CLEAR OPENING FOR ACCESS
500X500mm MIN. WITH
LIGHT WEIGHT COVER
出入口輕便活動蓋板
最小尺寸 500X500 毫米

SAMPLING POINT
IMMEDIATELY AFTER THE
GREASE TRAP OUTLET
抽樣點位於隔油池出水口後



7. Reference Materials (5)

Regional Offices



https://www.epd.gov.hk/epd/english/how_help/report_pollution/reportpollution_2.html

Contacts of Regional Offices				
District	Regional Offices	Address	Tel No. / Faxline	E-mail Address
Kwun Tong, Wong Tai Sin, Sai Kung, Yau Tsim Mong & Kowloon City	Regional Office (East)	5/F., Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon.	Tel: 2755 5518 Fax: 2756 8588	hotline_e@epd.gov.hk
Hong Kong Island & Islands	Regional Office (South)	2/F., Chinachem Exchange Square, 1 Hoi Wan Street, Quarry Bay, Hong Kong.	Tel: 2516 1718 Fax: 2960 1760	hotline_s@epd.gov.hk
Tuen Mun, Tsuen Wan, Kwai Tsing & Sham Shui Po	Regional Office (West)	8/F., Tsuen Wan Government Offices, 38 Sai Lau Kok Road, Tsuen Wan, New Territories.	Tel: 2417 6116 Fax: 2411 3073	hotline_w@epd.gov.hk
Yuen Long, Shatin, Tai Po & North	Regional Office (North)	10/F., Sha Tin Government Offices, No.1 Sheung Wo Che Road, Sha Tin, New Territories.	Tel: 2158 5757 Fax: 2685 1133	hotline_n@epd.gov.hk



8. New Regulation on Disposable Plastic Products

- The new legislation for the regulation of disposable plastic tableware and other plastic products has been implemented on **22 April 2024**, with the first six months following the implementation designated as an adaptation period.
- According to amended Product Eco-responsibility Ordinance (Cap. 603), the first stage of regulation includes:
 - Ban the local sale of and prohibit catering premises from providing customers with 9 types of disposable plastic tableware (including expanded polystyrene (EPS) tableware, plastic straw, plastic cup and plastic cup lid, etc.);
 - Regulate a series of disposable plastic products (such as disposable transparent plastic gloves and umbrella bags) in terms of their sale and supply.



The Regulation Scheme

Disposable plastic tableware	Sale	Takeaway	Dine-in
1. All expanded polystyrene (EPS) tableware (including plates, food containers and cups)	X	X	X
2. Plastic straws	X	X	X
3. Plastic stirrers	X	X	X
4. Plastic forks, knives, spoons	X	X	X
5. Plastic plates	X	X	X
6. Plastic cups	Can continue to be sold	Can continue to be used	X
7. Plastic cup lids	Can continue to be sold	Can continue to be used	X
8. Food containers including plastic bowls and plastic boxes	Can continue to be sold	Can continue to be used	X
9. Lids of food containers including plastic bowls and plastic boxes	Can continue to be sold	Can continue to be used	X



The Regulation Scheme

Other disposable plastic products	Sale	Free distribution	Manufacture
1. Plastic stemmed cotton buds	X	X	
2. Balloon sticks	X	X	
3. Inflatable cheer sticks	X	X	
4. Glow sticks	X	X	
5. Party hats	X	X	
6. Umbrella bags	X	X	
7. Plastic food sticks	X	X	
8. Plastic toothpicks	X	X	
9. Non-medical use transparent gloves	Can continue to be sold	X	
10. Plastic packaged tissue paper for promotional use	Can continue to be sold	X	
11. The following plastic products for use in hotel rooms: toothbrushes; toothpaste; shower caps; razors; nail files; combs; small sized shampoo, body wash, conditioner, lotion and hand wash; disposable plastic bottled water	Can be provided at a charge	X	
12. oxo-degradable plastic products (regardless of disposability)	X	X	X



Plastic Definition

- “Plastic product” generally refers to the product that is wholly or partly made of plastics.
- “Plastic” includes
 1. conventional plastic (e.g. expanded polystyrene (EPS), polyethylene terephthalate (PET), polypropylene (PP), polystyrene (PS))
 2. oxo-degradable plastic



3. biodegradable plastic (e.g. polylactic acid (PLA), polyhydroxybutyrate (PHB), polybutylene succinate(PBS))
4. plastic lining (e.g. paper food container with laminated polyethylene (PE) coating)



Common Examples of Non-Compliant Tableware

- Made of “eco-materials”, such as PLA, rice bran, carbon powder, coffee ground, wheat, corn starch or other plant starch, bagasse straws, etc.;
- Commonly blended with plastic polymers, i.e. non-compliant tableware



Alternative Tableware that can be used

- Reusable Tableware

e.g. reusable tableware made of stainless steel, ceramic, glass, plastic, wood, etc.

- Non-plastic Disposable Tableware

The current common non-plastic disposable tableware alternatives available on the market include paper, bamboo, wood, plant fiber materials (such as wood pulp, straw pulp, bagasse), and paper products with water-based barrier coating, etc.



Exclusions and Exemptions (Regulation of Disposable Plastic Tableware)

- Tableware attached to pre-packaged food or drink products

What is pre-packaged food?

1. Packaged at a place outside the supply point; AND
2. Wholly contained in packaging

- Provision of disposable plastic straws to persons with medical needs



e.g. Disposable plastic tableware contained in ice-cream cups and cup noodles



e.g. Straw attached to beverage cartons



e.g. Disposable plastic containers for pre-packaged food



Penalties

- Any person who contravenes the regulation of disposable plastic tableware and other plastic products commits an offence and is liable to a maximum fine at level 6 (\$100,000)
- EPD can issue a **fixed penalty notice** to the person-in-charge of the relevant business premises or relevant person demanding for a fixed penalty of **\$2,000** to discharge the person's liability for the offence

(not applicable to non-compliance related to oxo-degradable plastic products or those considered serious (i.e. recklessly or repeatedly committing an offence concerned))



Reference Materials

“Cut Plastic Use” thematic website



<https://www.cuttheplastics.hk/index.php/en/>

- Disseminate information related to new legislation, including details of the legislation, promotional materials, and provide possible alternatives and ways

Green Tableware Platform



<https://greentableware.hk/en-us>

- Provide the industry with information on alternatives that comply with the new legislation, so as to assist the industry in switching to more environmentally friendly non-plastic tableware as soon as possible





Thank you !

