

Commercial Kitchen Extraction Systems

Pro-forma for Planning Applications to Demonstrate Conformity to EMAQ 2018

1.1 Planning Reference

25/00614/FUL

1.2 Subject Premises Address

57 Wood St., Earl Shilton, Leicester LE9 7NE

2.0 Risk Assessment Score

Criteria	Score	Score	Details
Dispersion	Very Poor	20	Low level discharge, discharge into courtyard or restriction on stack.
	Poor	15	Not low level but below eaves, or discharge at below 10m/s
	Moderate	10	Discharging 1m above eaves at 10-15m/s.
	Good	5	Discharging 1m above eaves at 15m/s
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Fair	1	Closest sensitive receptor more than 100m from kitchen discharge.
Size of Kitchen	Large	5	More than 100 covers or large sized takeaway.
	Medium	3	Between 30 and 100 covers or medium sized takeaway.
	Small	1	Less than 30 covers or small sized takeaway.

Cooking type (odour and grease loading)	Very high		Pub (high level of fried food), fried chicken, burgers or fish and chips. Turkish, Middle Eastern or any premises cooking with solid fuel (inc. charcoal, wood).
	High	7	Vietnamese, Thai, Indian, Japanese. Chinese, stakehouse.
	Medium	4	Cantonese, Italian, French, Pizza (gas fired).
	Low	1	Most pubs (no fried food, mainly reheating and sandwiches etc), Tea rooms.

2.1 TOTAL RISK SCORE

28

2.2 Odour Control Requirement

☒	Impact Risk	Odour Control Required	Total Risk Score
☐	Low to Medium	Low level odour control	Less than 20
☒	High	High level odour control	20 to 35
☐	Very High	Very High level odour control	More than 35

3.0. Odour Control to be Employed

The following level of odour control is required:

Low Level Odour Control* \ High Level Odour Control* \ Very High Level Odour Control*

(* delete as applicable)

Low to medium level odour control may include:

L1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.1 second residence time).

High Level of odour control may include:

H1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2 – 0.4 second residence time).

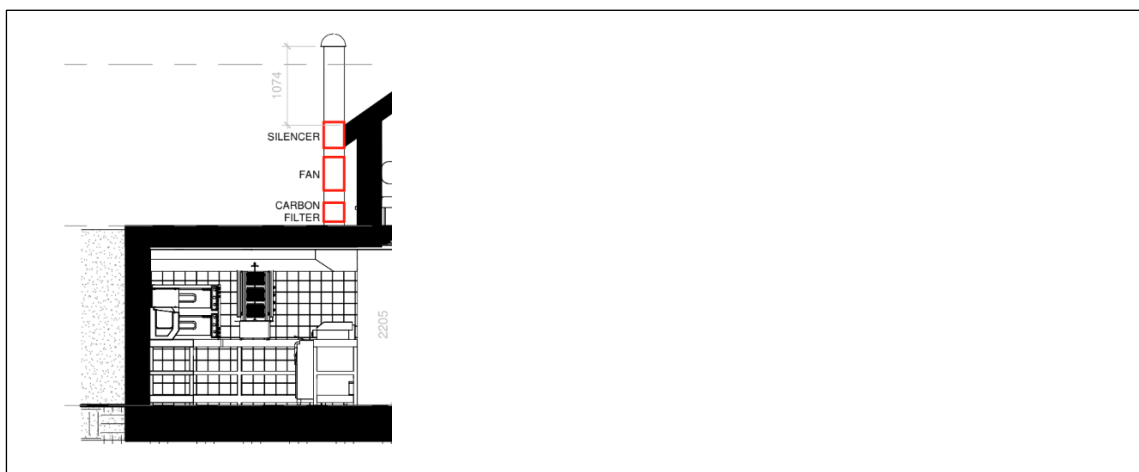
H2. Fine filtration or ESP followed by UV ozone system to achieve same level of control as H1

Very High Level of odour control may include:

VH1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.4 to 0.8 second residence time).

VH2. Fine filtration or ESP followed by UV ozone system to achieve same level of control as VH1

3.1. Diagram of Extract System



3.2. Description of Each component in Extract System (refer to diagram - Section 3.1)

3.2.1. Canopy

Make Stainless steel canopy (commercial grade)
Model Wall-mounted commercial kitchen canopy
Supplier Jasun Envirocare (or equivalent)
Air velocity at canopy (m/s) ~0.5 m/s (EMAQ standard, canopy face velocity)

Description Wall-mounted stainless steel canopy positioned above gas stove, fryer, pizza oven and doner machine.

Maintenance schedule Weekly: Removal and washing of grease baffle filters.

..... Annual: Full ductwork and canopy deep clean.

3.2.2. Coarse Filter or Grease Separation

e.g. mesh, baffle, cartridge, water wash, cold mist.

Type Baffle grease filter
Make Stainless steel grease baffle
Model Removable, washable baffle filter
Supplier Jasun Envirocare (or equivalent)

Description Integrated stainless steel baffle filter located within canopy.

..... Designed to capture grease particles and prevent flame spread.

..... Filters are removable, washable, and corrosion resistant.

Maintenance schedule Weekly: Removal and washing of baffle filters with detergent.

..... Annual: Full inspection and deep clean of ductwork and filters.

3.3.3. Fine Filter – Primary/Pre-filter (this is NOT an odour filter)

e.g. pleated filter, bag filter

Type	.....	Type	.....
Make	.....	Make	.....
Model	.....	Model	.....
Supplier	.....	Supplier	.....
Description			
.....			
.....			
Maintenance schedule			

3.3.4. Fine Filter – Secondary (this is NOT an odour filter)

Type	.....
Make	.....
Model	.....
Supplier	.....
Description	
.....	
.....	
Maintenance schedule	

NOTE: HEPA filters require panel and bag pre-filtration

3.3.5. Absorption (Odour Filtration)

e.g. activated carbon filtration

Make	AirClean
Model	Reactive carbon filtration panel (0.2s residence time)
Supplier	: AirClean or equivalent
Description	
Activated carbon filter panel designed for odour absorption.	
Provides 0.2 second residence time, removing up to 95% of odours and VOCs. Suitable for 7560 m ³ /h airflow.	
.....	
Maintenance schedule	
Replace every 6–12 months depending on usage intensity.	

3.3.6. Oxidation

Make

Model

Supplier

Description

.....

.....

Maintenance schedule

3.3.7. Stack

Height

Approx. 1 m above eaves

Discharge Velocity ≥ 15 m/s (as per EMAQ 2018 guidance).

Maintenance schedule

Annual: Full inspection and cleaning of ductwork and stack.

Additional cleaning if grease accumulation observed during routine checks.

If the discharge velocity is less than 15m/s applicant must demonstrate that the effective stack height is sufficient to ensure adequate dilution and dispersal. The effective stack height is estimated from:

$$\Delta H = 3W.d/U$$

Where,

W (m/s) is the efflux speed at the chimney top

U (m/s) is the wind speed at the height of the stack

D (m) is the internal diameter of the stack

Ideally W/U should be greater than 4.

The use of “*Chinaman’s hats*” or other other cowls which impede flow is not recommended. The exception is the use of accelerator cowls which promote upward velocity and increase effective stack height.

3.3.8 Other

Please describe any other relevant odour control equipment, or provide additional relevant information here.

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