

MINIMUM VENTILATION RATES:

- AN INTERNAL AMBIENT AIR TEMPERATURE OF 28 MAX.
- MAX. HUMIDITY LEVELS OF 70%
- DEDICATED MAKE UP AIR SYSTEM TO BE APPROXIMATELY 85% OF THE EXTRACT FLOW RATE
- MIN. AIR CHARGE RATE OF 40 PER HOUR

MINIMUM REQUIREMENTS FOR CANOPY

Velocity Requirements

- LIGHT LOADING - 0.25m/s (APPLIES TO STEAMING OVENS, BOILING PANS, BAINS MARIE AND STOCK-POT SERVERS).
- MEDIUM LOADING - 0.35 m/s (APPLIES TO DEEP FAT FRYERS, BRATT PANS SOLID AND OPEN TOP RANGES AND GRIDDLES).
- HEAVY LOADING - 0.5 m/s (APPLIES TO CHARGRILLS, MESQUITE AND SPECIALIST BROILER UNITS)

Material of Construction

- A MATERIAL THAT WOULD COMPLY WITH THE FOOD HYGIENE REQUIREMENT IS STAINLESS STEEL.

Grease Filtration

- HAVE A MIN. PERFORMANCE THE SAME AS A BAFFLE FILTER
- BE EASY TO CLEAN

MINIMUM REQUIREMENTS FOR DUCT WORK

- ALL DUCTWORK SHOULD BE LOW PRESSURE CLASS A AND CONSTRUCTED IN ACCORDANCE WITH HVCA SPECIFICATION DW/144 WITH A MIN. THICKNESS OF 0.8mm
- DUCT VELOCITIES SHOULD BE AS FOLLOWS:

SUPPLY (m/s)	EXTRACT (m/s)	
MAIN RUNS	6-8	6-9
BRANCH RUNS	4-6	5-7
SPIGOTS	3-5	5-7

- ALL INTERNAL SURFACES OF THE DUCTWORK SHOULD BE ACCESSIBLE FOR CLEANING AND INSPECTION. ACCESS PANELS SHOULD BE INSTALLED AT 3.0m CENTERS AND SHOULD BE GREASE TIGHT USING A HEAT PROOF GASKET OR SEALANT.
- DUCT WORK SHOULD NOT PASS THROUGH FIRE BARRIERS.
- WHERE IT IS NOT POSSIBLE TO IMMEDIATELY DISCHARGE THE CAPTURED AIR, FIRE RATED DUCTWORK MAY BE REQUIRED.

MINIMUM REQUIREMENTS FOR FANS

FANS MUST BE CAPABLE OF DEALING WITH THE OPERATING STATIC PRESSURE WITHIN THE DUCT WORK SHOULD BE DESIGNED WITH A MIN. 10% PRESSURE MARGIN (NOTE OPERATING STATIC PRESSURE WILL INCREASE THROUGHOUT A MAINTENANCE CYCLE).

BACKWARD CURVED CENTRIFUGAL, MIXED FLOW OR AXIAL FLOW IMPELLERS ARE PREFERRED AS THEY ARE LESS PRONE TO IMBALANCE AND ARE MORE EASILY MAINTAINED/CLEANED DUE TO THEIR OPEN CONSTRUCTION, FIXED OR ADJUSTABLE METAL IMPELLERS WITH A ROBUST AND OPEN CONSTRUCTION SHOULD BE USED.

FAN MOTORS SHOULD BE RATED TO IP55 WITH NO NEED TO MOUNT THE MOTOR OUTSIDE OF THE AIR STREAM. FOR FANS THAT HAVE MOTORS WITHIN THE AIR STREAM AND ARE VENTILATING COOKING EQUIPMENT THAT PRODUCE HIGH LEVELS OF TEMPERATURE AND HUMIDITY THE SPECIFICATION FOR THE MOTOR SHOULD BE UPGRADE TO WITHSTAND MORE ONEROUS CONDITIONS

MINIMUM REQUIREMENTS FOR ODOUR CONTROL

OBJECTIVES

- FOR NEW PREMISES OR PREMISES COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF ODOUR THE SYSTEM SHALL BE DESIGN ED TO PREVENT HARM TO AMENITY.
- FOR EXISTING PREMISES NOT COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF ODOUR, THE SYSTEM SHALL BE DESIGNED TO AVOID STATUTORY NUISANCE AND SHALL COMPLY WITH THE PRINCIPLES OF BEST PRACTICAL MEANS.

TO ACHIEVE THESE OBJECTIVE THE ODOUR CONTROL SYSTEM SHALL INCLUDE AN ADEQUATE LEVEL OF:

- 1.ODOUR CONTROL; AND
- 2.STACK DISPERSION.

THE OVERALL PERFORMANCE OF THE ODOUR ABATEMENT SYSTEM WILL REPRESENT A BALANCE OF 1 AND 2.

DISCHARGE STACK

THE DISCHARGE STACK SHALL:

1. DISCHARGE THE EXTRACTED AIR NOT LESS THAN 1m ABOVE THE ROOF RIDGE OF ANY BUILDING WITHIN 20m OF THE BUILDING HOUSING THE COMMERCIAL KITCHEN.
2. IF 1 CANNOT BE COMPLIED WITH FOR PLANNING REASONS, THEN THE EXTRACTED AIR SHALL BE DISCHARGE NOT LESS THAN 1m ABOVE THE ROOF EAVES OR DORMER WINDOW OF THE BUILDING HOUSING THE COMMERCIAL KITCHEN. ADDITIONAL ODOUR CONTROL MEASURES MAY BE REQUIRED.
3. IF 1 OR 2 CANNOT BE COMPLIED WITH PLANNING REASONS, THEN AN EXCEPTIONALLY HIGH LEVEL ODOUR CONTROL WILL BE REQUIRED.

ODOUR ARRESTMENT PLANT PERFORMANCE

LOW TO MEDIUM LEVEL CONTROL MAY INCLUDE:

1. FINE FILTRATION OR ESP FOLLOWING BY CARBON FILTRATION (CARBON FILTERS RATED WITH A 0.1 SECOND RESIDENCE TIME).
- 2 FINE FILTRATION FOLLOWED BY COUNTERACTANT/ NEUTRALIZING SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.

HIGH LEVEL ODOUR CONTROL MAY INCLUDE:

1. FINE FILTRATION OR ESP FOLLOWED BY CARBON FILTRATION (CARBON FILTERS RATED WITH A 0.2-0.4 SECOND RESIDENCE TIME )
2. FINE FILTRATION OR ESP FOLLOWED BY UV OZONE SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROLS AS 1.

VERY HIGH LEVEL ODOUR CONTROL MAY INCLUDE:

1. FINE FILTRATION OR ESP FOLLOWED BY CARBON FILTRATION (CARBON FILTERS RATED WITH A 0.4-0.8 SECOND RESIDENCE TIME).
2. FINE FILTRATION OR ESP FOLLOWED BY CARBON FILTRATION AND BY COUNTERACTANT/NEUTRALISING SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.
3. FINE FILTRATION OR ESP FOLLOWED BY UV OZONE SYSTEM TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.
4. FINE FILTRATION OR ESP FOLLOWED BY WET SCRUBBING TO ACHIEVE THE SAME LEVEL OF CONTROL AS 1.

MAINTENANCE MUST BE CARRIED OUT TO ENSURE THESE PERFORMANCE LEVELS ARE ALWAYS ACHIEVED.

MINIMUM REQUIREMENTS FOR NOISE CONTROL

FOR NEW PREMISES OR PREMISES COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF NOISE THE SYSTEM SHALL BE DESIGNED TO PREVENT AN ACOUSTIC IMPACT ON EXTERNAL ENVIRONMENT AND THEREFORE HARM TO THE AMENITY, AS WELL AS ENSURING THAT NOISE EXPOSURE OF KITCHEN STAFF DOES NOT CONSTITUTE A HEARING HAZARD.

FOR EXISTING PREMISES NOT COVERED BY PLANNING CONDITIONS RESTRICTING THE IMPACT OF NOISE THE SYSTEM SHALL BE DESIGNED TO AVOID STATUTORY NUISANCE AND SHALL BE COMPLY WITH THE PRINCIPLES OF 'BEST PRACTICABLE MEANS'.

TO ACHIEVE THESE OBJECTIVES THE NOISE CONTROL SYSTEM SHALL INCLUDE:

- CONTROL OF NOISE AT SOURCE TO THE GREATEST EXTENT POSSIBLE (WITH THE ADDED BENEFIT OF HEARING PROTECTION); AND
- CONTROL OF NOISE TO THE ENVIRONMENT BY TAKING ACOUSTIC CONSIDERATION INTO ACCOUNT WITHIN DUCT, GRILLE AND TERMINATION DESIGN.

THE CONTROL SYSTEM SHOULD MEET THE REQUIREMENTS LAID DOWN IN BS4142: 1997 "METHOD FOR RATING INDUSTRIAL NOISE AFFECTING MIXED RESIDENTIAL AND INDUSTRIAL AREAS"

MINIMUM REQUIREMENTS FOR FIRE SUPPRESSION

PROPRIETORS OF COMMERCIAL KITCHEN ARE UNDER A DUTY TO ENSURE THAT THE FIRE PRECAUTIONS MEET THE REQUIREMENTS OF THE 'FIRE PRECAUTIONS (WORKPLACE) REGULATIONS 1997'

MAINTENANCE

PROPRIETORS OF COMMERCIAL KITCHENS HAVE A DUTY TO ENSURE THAT THE VENTILATION SYSTEM SERVING THE RESPECTIVE PREMISES ARE MAINTAINED AND OPERATED EFFECTIVELY. GOOD MAINTENANCE IS A PREREQUISITE FOR ENSURING THAT A SYSTEM COMPLIES WITH BEST PRACTICABLE MEANS UNDER STATUTORY NUISANCE PROVISION AND WILL FORM A KEY ELEMENT OF ANY SCHEME DESIGNED TO MINIMIZE HARM TO THE AMENITY UNDER PLANNING REGULATION. GOOD MAINTENANCE IS REQUIRED BY THE FOOD HYGIENE REGULATIONS AND WILL ALSO MINIMIZE THE RISK OF FIRE. THE RECOMMENDED CLEANING PERIOD FOR EXTRACT DUCTWORK IS:

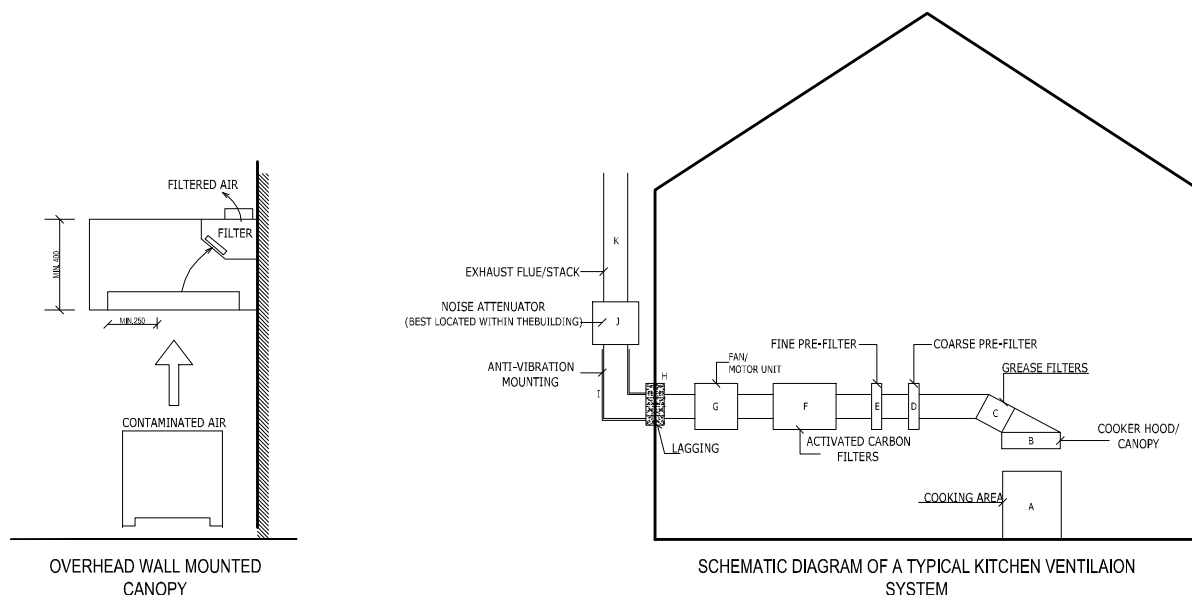
HEAVY USE	12-16 HOURS PER DAY	3 MONTHLY
MODERATE USE	6-12 HOURS PER DAY	6 MONTHLY
LIGHT USE	2-6 HOURS PER DAY	ANNUALLY

RECOMMENDATIONS FOR MAINTENANCE OF ODOUR CONTROL SYSTEM INCLUDE:

- SYSTEM EMPLOYING FINE FILTRATION AND CARBON FILTRATION CHANGE FINE FILTERS EVERY TWO WEEKS. CHANGE CARBON FILTERS EVERY 4 TO 6 MONTHS.
- USE A SYSTEM EMPLOYING ESP AND OTHER IN LINE ABATEMENT.

CLEAN EVERY 2-6 MONTHS.

**ALL INFORMATION REGARDING THE KITCHEN EXTRACTION / DUCTING AND FLUE SYSTEM IS OBTAINED FROM DEFRA 2005 (DEPARTMENT FOR ENVIRONMENT FOOD AND RURAL AFFAIRS)**



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**6 - 7 CROWN WALK  
NEWMARKET  
CB8 8NG**

**NOTES 1**

SCALE: 1/---@ A3

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DRG BY: S. AY -SAYAR DESIGN

**SAYAR DESIGN**

Tel.: 078 8787 1149 / 01992 214571

14 MARSH CLOSE

EN8 7JF

www.sayarchitects.co.uk - mimarsinan\_ay@hotmail.com