



PREMIER CATERING
MANUFACTURE

EMAQ REPORT

PREPARED BY:

PCM Ltd
Unit 2
Deveron Mill
Great Harwood
Blackburn
Bb6 7EJ

T: 0800 4890704

E: info@premiercateringmanufacture.co.uk

SITE DETAILS:

FRESH FUEL
46 HENRY STREET
MANCHESTER
M4 5DD

Odour Control Risk Assessment

Monday, 10/09/2024 Prepared
for: CLIENT DIRECT Issues
Identified



EMAQ Statement

Following further assessment subject to planning guidelines. This assessment we believe falls in line with the local authorities requirements and if the system is maintained correctly they will not exhaust nuisance odours leading to complaints from nearby residents

We have made an independent assessment based on the EMAQ guidelines as detailed in Appendix 3 as below.

EMAQ Scoring Assessment

CRITERIA	SCORE	SCORE	DETAILS	IMPACT (RED)
DISPERSION	VERY POOR	20	LOW LEVEL DISCHARGE, COURTYARD OR RESTRICTIONS ON STACK	
	POOR	15	NOT LOW LEVEL, BUT BELOW EAVES, OR DISCHARGE T BELOW 10M/S	
	MODERATE	10	DISCHARGING 1MTR ABOVE EAVES @10-15M/S	
	GOOD	5	DISCHARGING 1MTR ABOVE RIDGE @15M/S	
PROXIMITY OF RECEPTORS	CLOSE	10	CLOSEST RECEPTOR - LESS THAN 20MTR FROM KITCHEN DISCHARGE	
	MEDIUM	5	CLOSEST RECEPTOR - BETWEEN 20 AND 100M FROM KITCHEN DISCHARGE	
	FAR	1	CLOSEST RECEPTOR - MORE THAN 100M FROM KITCHEN DISCHARGE	
SIZE OF KITCHEN	LARGE	5	MORE THAN 100 COVERS - OR LARGE SIZED TAKEAWAY	
	MEDIUM	3	BETWEEN 30-100 COVERS OR MEDIUM SIZED TAKEAWAY	
	SMALL	1	LESS THAN 30 COVERS OR SMALL SIZED TAKEAWAY	
COOKING TYPE (ODOUR & GREASE LOADING)	VERY HIGH	10	PUB TYPE (HIGH LEVEL FRIED FOODS) FRIED CHICKEN, BURGERS, FISH & CHIPS	
	HIGH	7	VIETNAMESE, THAI, INDIAN, JAPANESE CHINESE, STEAKHOUSE	
	MEDIUM	4	CANTONESE, ITALIAN, FRENCH, PIZZA (GAS FIRED)	
	LOW	1	MOST PUBS (NO FRIED FOODS) I.E TEA ROOMS	

TOTALSCORE - 31

HIGH LEVEL ODOUR CONTROL REQUIRED



PREMIER CATERING
MANUFACTURE

Site Odour Abatement Requirements

High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2 – 0.4 residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.

Recommendations

(Spec Sheets Enclosed Separate)

- Stage 1 - UI1046 High Efficiency Grease Filters**
- Stage 2 - ESP Filtration**
- Stage 3 - UV Ozone System**
- Stage 4 - 3X Carbon Filters**
- Stage 5 - 2d Silencer**

Maintenance Summary

Follow guidance as per manufacturers manuals
SUMMARY TO END OF DOCUMENT

subject to visual inspection - MANUALS PROVIDED POST INSTALL

Stainless Steel Baffle Filters

APPLICATIONS

Suitable for use in all catering applications to remove airborne grease

OPERATION

It is universally recognised that there is an increasing need to maintain and improve hygiene standards and reduce fire hazards within kitchens. The Baffle Grease filter accomplishes both needs through its clever design of interlocking baffles that provide a tortuous route for the passage of air through the filter by creating two rapid air direction changes simultaneously. The grease molecules having a far greater inertial force than air impact themselves on the vanes

CONSTRUCTION

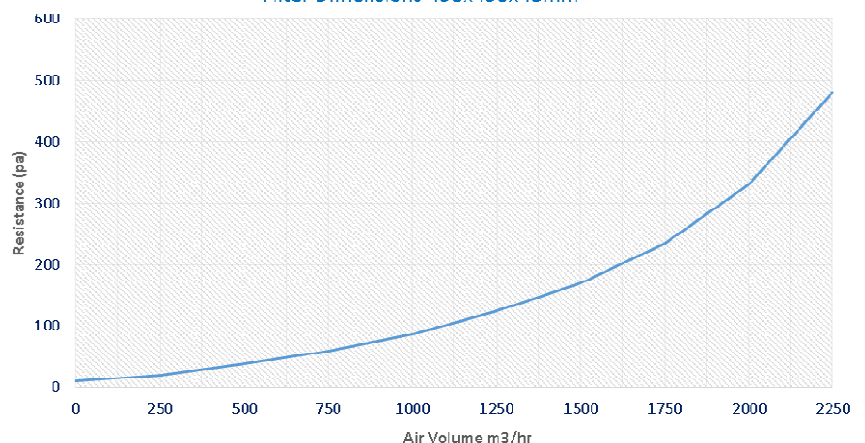
Robustly manufactured in stainless steel, a series of vertical vanes are housed in a channel frame with each of the baffles strategically aligned to provide the highest potential for grease removal. Due to the smooth nature of the vanes the grease naturally runs downwards through the drainage holes and into the collecting trays normally provided within the canopy holding casings.



- Consistent performance & long life
- Certified to DIN
- Robust construction
- Range of standard sizes
- Efficient removal of grease & oil

STANDARD RANGE (HxWxD)

SS Baffle Filter - Airflow -v- Resistance
Filter Dimensions 495x495x48mm



CLEANING

It is imperative that this product is regularly cleaned according to use. This may be accomplished by steam cleaning, washing in a dishwasher using conventional detergents or cleaners or by using proprietary steeping degreasants.

Please note: In their continuous search for product improvement Westbury Filtration reserve the right to change materials and specifications without prior notice.



EQUIPMENT SCHEDULE

SPECIFIC KITCHEN EXTRACT FLOW RATE CALCULATOR

(based on the THERMAL CONVECTION METHOD as recommended in **BESA Specification DW/172: 2018**)

CLIENT:	FRESH FUEL	JOB REF:	FRESH FUEL
CANOPY / CEILING REF:	CANOPY INSTALL	DRAWING REF:	MAIN COOKLINE
RECOMMENDED HOOD SIZE - TBA		DATE:	10/09/2025
		DESIGNER:	DAVID

	POWER	PLAN SIZE		AREA	TCC	FLOW RATE
		X(m)	Y(m)	(m ²)	(m ³ /s/m ²)	(m ³ /s)
COOKING EQUIPMENT (Select from drop down menu on the right of the cell -->)						
Mild Steel Griddle, Electric	Electric	0.75	0.62	0.47	0.25	0.12
Benches, Spreaders & Worktops	n/a	0.45	0.65	0.29	0.03	0.01
Mild Steel Griddle, Electric	Electric	0.75	0.62	0.47	0.25	0.12
Pasta Cooker, Electric	Electric	0.30	0.65	0.20	0.20	0.04
Pass Through Dishwasher	n/a	0.30	0.65	0.20	0.40	0.08
Deep Fat Fryer (3 No.), Electric	Electric	0.60	0.63	0.38	0.45	0.17
Chip Scuttle	Electric	0.45	0.60	0.27	0.15	0.04
-						
-						
-						
-						
-						
-						
-						

X FACTOR FOR CANOPY / CEILING TYPE:

THEORETICAL FLOW RATE (m ³ /s)	0.57 m ³ /s
08. Overhead Wall Type (open one end)	1.20
SPECIFIC EXTRACT FLOW RATE	0.683 m ³ /s
MAKE-UP-AIR TO EXTRACT RATE RATIO	85%
MAKE-UP-AIR FLOW RATE (m ³ /s)	0.58 m ³ /s

Premier Catering Manufacture
Tel: 01254 449006

info@premiercateringmanufacture.co.uk www.commercialkitchencompany.co.uk

PURIFIEDAIR - ESP3000

Our Oil Mist Units features a double-pass ESP technology and is efficient at 99%. Due to their compact size and built in fan system, they can be directly mounted to a machine tool.

The ionisation voltage has been designed to run at a positive potential, reducing ozone production and making it ideal for indoor applications.

A highly efficient oil, mist and smoke collector is effective on all metalworking fluids.

KEY FEATURES

- Filters particles down to sub-micron levels
- Tested to 99% efficiency
- Low operating costs
- Minimal maintenance required
- Specifically designed for industrial application
- Energy efficient
- Removes oil, mist and smoke
- Compact design

FILTERS REMOVE



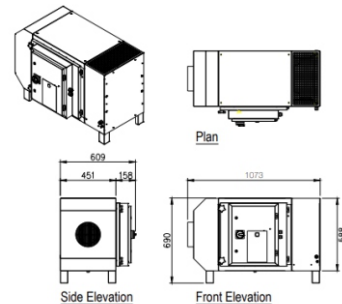
Smoke



Oil



Mist



ESP 3000

Max air volume	up to 1.4m3/sec
Dimensions	W900mm H630mm D640mm
Weight	85KG
Power	30W



[Spec sheet overleaf >](#)

STAGE 2

PURIFIEDAIR - ESP3000 (SPECIFICATIONS)

**FOR FURTHER SPECIFICATIONS
PLEASE VISIT.....**

<https://www.purifiedair.com/wp-content/uploads/2023/11/Industrial-ESP-Brochure-2023-1.pdf>

STAGE 2



PREMIER CATERING
MANUFACTURE

BAG FILTER

UV-O 500

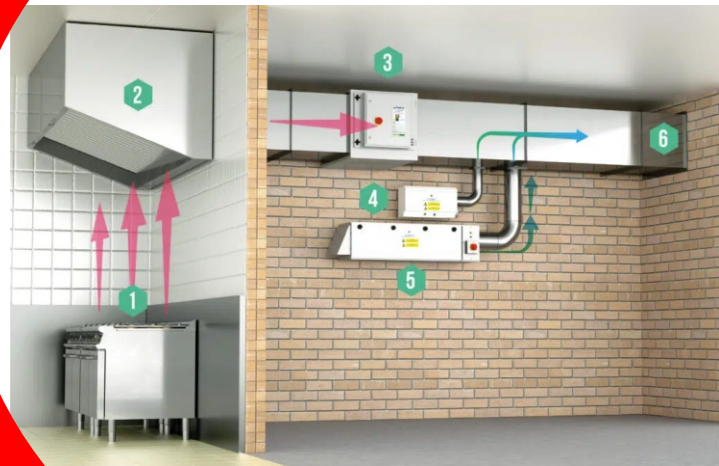


UV-O 500

Max Air Volume	up to 1.5m ³ /sec
Dimensions	W610mm H630mm D200mm
Weight	10.5KG (Approx)
Power	140W

UV-O 1000

Max Air Volume	up to 2.5m ³ /sec
Dimensions	W1521mm H350mm D404mm
Weight	50KG (Approx)
Power	640W



Eliminates up to 90% of odours



Easy to retro-fit



Low maintenance



Low pressure loss

Unlike other UV-C systems, our UV-O units are located outside of the kitchen extract duct and are connected via a spigot and spiral ducting.

The UV-O 500 has been designed for smaller capacity commercial kitchens. The UV-O range uses UV-C technology to produce ozone and hydroxyl free radicals to oxidise cooking odours through a process of ozonolysis. Unlike other UV-C systems, our UV-O units are located outside of the kitchen extract duct and are connected via a spigot and small diameter ducting.

Carbon Filtration x3 Site Safe

SITESAFE CARBON FILTERS

MARKET LEADERS
SINCE
1984

We manufacture Sitesafe carbon filters, these innovative carbon units measure 594x196x597mm, three combining to 594x594x597mm, directly replacing our original carbon blocks whilst providing exactly the same filter performance as an existing full size cell.

Their advantage is that they only weigh 18kg each against the 68kg of our original blocks. This takes the strain out of fitting and servicing, allowing only one engineer to complete the task where two had been previously required. Our Sitesafe carbon filters use panels of activated carbon to remove the malodorous gases within the commercial kitchen extract duct through the process of chemical adsorption.

By installing our ESP units before our Sitesafe filters, the carbon life span is greatly increased, allowing it to nullify malodours at optimum efficiency for much longer.

Please see below for the recommended minimum dwell times required for different applications and scale up accordingly. It should be noted that filtration performance will be improved by increasing the dwell times applied.

Application	Recommended Dwell Time	Grade
Cooking - Low Odour, Tea Shop, Canteens	0.1 to 0.2 Seconds	Carbon grade Enhanced for improved performance for light catering odours
Cooking - Moderate Odour, Pizza, Steak House, French, Italian, Pubs, Chinese, Japanese, Cantonese	0.2 to 0.4 Seconds	Enhanced Carbon grade suitable for many applications 65% Minimum CTC
Cooking High Odour, Indian, Thai, Vietnamese, Kebab	0.4-0.6 Seconds	Enhanced Carbon grade suitable for many applications 65% Minimum CTC
Cooking Very High Odour, Fried Chicken, Pubs with large fried food turnover, Fish and Chip Shops, Fast Food / Burgers	0.4-0.8 Seconds	Enhanced Carbon grade suitable for many applications 65% Minimum CTC
Reduction of Kerosene Exhaust fumes	0.1 to 0.2 Seconds	General Purpose Activated Carbon
Reduction of Ozo	0.1 to 0.2 Seconds	General Purpose Activated Carbon
Reduction of Diesel Fumes, including H2S, SO2, NOX, HCI	0.2 Seconds	Carbon Museum,Archive, Café Directive: SO2 SOX NO2 NOX Removal
Museum and Archive	0.2 Seconds	Carbon Museum,Archive, Café Directive: SO2 SOX NO2 NOX Removal

Will require two people plus lifting gear to carry and install.	
 	
	Carbon PA242424
Size (mm)	594x 594x597
Gross Weight	68.20kg
Carbon Weight	50kg
Rated Airflow	3600m ³ /hr*
Pressure Drop	120Pa

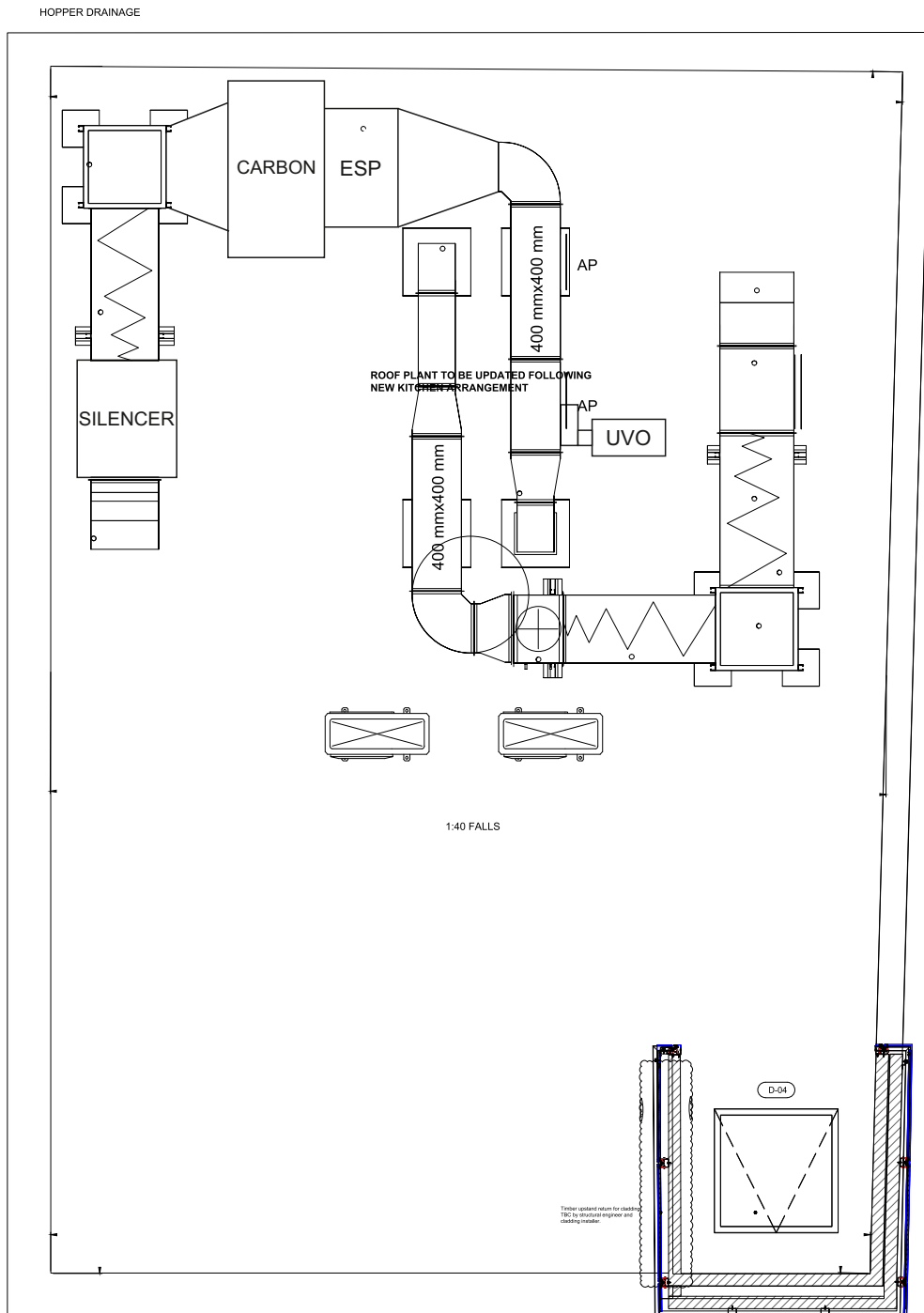
Safe for one person to carry. No special lifting gear required.	
	
Sitesafe PA240824	Sitesafe 3 x PA240824
594x196x597	594x594x597
17.95kg	53.85kg
16.6kg	50kg
1200m³/hr*	3600m³/hr*
120Pa	120Pa



PREMIER CATERING
MANUFACTURE

ELEVATIONS

PROPOSED ELEVATIONS



ILLUSTRATIVE ONLY

Comments: Duct altered to suit ESP Installed/Uvo installed/2D Silencer



PREMIER CATERING
MANUFACTURE

SYSTEMAIR

MUB450EV

EXTRACT FAN SPECS

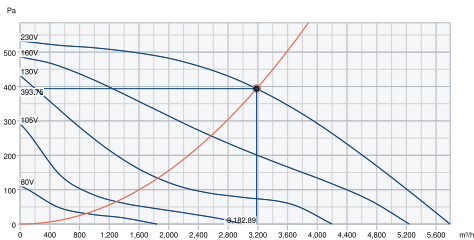
systemair MUB 042 450EV sileo Multibox

Item number: #235407 Variant: 230V 1~ 50Hz - 90° air flow

Performance

Working point adjusted to closest valid point.

Performance curve



Hydraulic data

Required air flow	3,184 m³/h
Required static pressure	394 Pa
Working air flow	3,183 m³/h
Working static pressure	394 Pa
Air density	1.204 kg/m³
Power	751.1 W
Fan control - RPM	1,369 rpm
Current	3.09 A
SFP	0.849 kW/m³/s
Control voltage	230,0 V
Supply voltage	230 V

Sound power level		63	125	250	500	1k	2k	4k	8k	Total
Inlet	dB(A)	46	59	62	67	72	70	63	55	75
Outlet	dB(A)	47	61	64	69	73	71	64	56	77
Surrounding	dB(A)	30	44	45	42	46	47	38	24	52
Sound pressure level at 3m (20m² Sabine)	dB(A)	-	-	-	-	-	-	-	-	45
Sound pressure level at 3m free field	dB(A)	-	-	-	-	-	-	-	-	31

Accessories

Article name: MUB 042 450EV sileo Multibox | Product link: <https://shop.systemair.com/en/product/Permalink?p=522952> | Item number: 235407 | Variant: 230V 1~ 50Hz - 90° air flow | Document type: Product card | Created at: 2023-11-09 | Generated by: Systemair Online Catalogue | Language: English

Page 4 of 8

HOW LOUD IS IT?

45dB(A) at 3MTRmtr

SILENCER SPECS - extract only

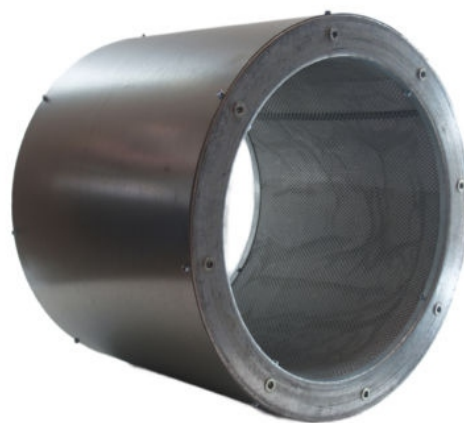
Flakt Woods Silencer

TBC dia x 1120mm long straight through silencer (generally reduces a fan noise level by 10-18dB (A))*
Can be supplied to either bolt directly to any manufacturer of cased axial or with spigots to mount inline with ducting.

The addition of this silencer to a system will act in the same way a silencer does on a car, so if you've ever heard a car with no silencer fitted, this gives you an idea of the impact a silencer can have on a system.

Please Note -for a straight through silencer to work to have the maximum impact on a system, a silencer should be fixed either side of the fan, this will give 3 benefits to the overall noise level of the system.

1. **System side** (usually the noise level inside a building) noise level is reduced
2. **Atmospheric side** (usually the noise level outside a building) noise level is reduced
3. **The breakout** from the fan is reduced, this could be a big factor depending where the fan is fitted, such as a false ceiling in a class room or office area



[Date] [Drawn] [Checked]

[Revision
A]

DECIBEL READINGS :

450mm dia x 900mm long straight through silencer (generally reduces a fan noise level by 10 – 13dB



Cleaning & Maintenance Schedule (DW/172 Compliant)

1. Stainless Steel Canopy Baffle Filters

- Daily: Remove, wash in dishwasher or manually with food-safe degreaser, inspect for damage.
- Weekly: Deep soak clean in hot degreasing solution, check welds and frames.
- Replacement: Replace if damaged or airflow not restored after cleaning.

2. ESP3000 (Electrostatic Precipitator – Purified Air)

- Weekly: Inspect pre-filters and collector cells.
- Monthly: Remove & clean collector cells with detergent, dry fully before reinstall. Clean pre-filters.
- Quarterly: Deep clean of ESP unit, inspect electrical components.
- Annually: Full service and calibration by qualified engineer.

3. UVO500 (UV Ozone Unit – Purified Air)

- Weekly: Visual inspection of lamps and housing.
- Monthly: Wipe lamps/reflectors with alcohol cleaner, check airflow paths.
- Annually: Replace lamps, service unit, test ozone generation.

4. Activated Carbon Filters

- Weekly: Inspect for odour breakthrough or media discolouration.
- Quarterly: Test performance for air quality & odour control.
- Replacement: Replace every 6–12 months or as needed. Dispose per regulations.

5. Ductwork (per DW/172)

- Heavy Use (12–16 hrs/day): Clean every 3 months.
- Moderate Use (6–12 hrs/day): Clean every 6 months.
- Light Use (2–6 hrs/day): Clean every 12 months.
- Specialist cleaning with certification and grease thickness testing (<200 microns).

Record Keeping

- Maintain cleaning log with signatures/dates.
- Keep service certificates from contractors.
- Ensure records available for inspection.

Comments

TERMINATION POINTS

AS PER CURRENT PROPOSED DUCT ROUTE

Comments

DUCTING

Ductwork

Ductwork on a kitchen ventilation system may include:

Galvanised duct 1.2mm

Straight ducts of various lengths, rectangular or circular

Bends (elbows), right angled or curved

Branches which may have 1 or more outlets

Termination Grills

Transition Pieces

Air In Ductwork

There are no special requirements for make up air ductwork. But typically will manufacture from stainless steel

Special Requirements

ADDITIONAL OPTIONS

IN INSTANCES - UNLESS SPECIFIED BY THE
RESTRICTIONS OF CONDITIONS. OPTIONS
AVAILABLE (MARKED RELEVANT TO APPLICATION):

FIRE RATED DUCT ☐

POWDER COATED DUCT ☐

COLOUR



END OF DOCUMENT

FOR QUOTE - PLEASE EMAIL (document sent seperate)