

PERMIT NO. 101



POLLUTION PREVENTION AND CONTROL ACT 1999  
 ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2007

**PERMIT OF PROCESS**

THIS IS TO CERTIFY THAT the Paper Coating Process.

Operated by: **Anstey Wallpaper Company Ltd, Ladybird House Beeches  
 Road, Loughborough. LE11 2NR**

**National Grid Ref: SK 544 196**

has been duly permitted in accordance with Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2007 subject to the conditions outlined in this document.

**Name of Operator: Anstey Wallpaper Company Ltd**

**Registered Office Bradbourne Drive, Tilbrook, Milton Keynes, Bucks. MK7 8BE**

This Permit shall apply only to the premises occupied by the applicant, as specified and described in the Application for Permit submitted to the Borough of Charnwood. This Permit, consisting of twenty-four pages, shall be subject to replacement, variation or amendment, as may be considered appropriate by the Borough of Charnwood at any time, according to provisions of Regulations, 18, 20, and 34 of the Environmental Permitting (England and Wales) Regulations 2007.

The conditions contained herein shall apply from the date of the Permit unless otherwise stated.

Signed on behalf of Charnwood borough Council

.....  
 Ann Green. Specialist Environmental Health Officer  
 (the delegated officer for the purpose)

Dated 9 March 2010

Counter-signed.....  
 Directorate of Strategic, Housing and Health, Environmental Protection, Southfields, Southfield Road  
 Loughborough LE11 2TX

## Introductory note

### **This introductory note does not form a part of the permit**

The following Permit is issued under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2007 (S.I. 2007/ 3538), as amended, (“the EP Regulations”) to operate an installation carrying out one or more of the activities listed in Part 2 of Schedule I of the EP Regulations, to the extent authorised by the Permit:

#### Section 6.4, Part B

"Any process for applying to a substrate, or drying or curing after such application, printing ink or paint or any other coating material as, or in the course of, a manufacturing activity, where the process may result in the release into the air of particulate matter or of any VOC and is likely to involve the use in any period of 12 months of 5 tonnes or more of organic solvents”.

The responsibility you have under legislation for Health, Safety and Welfare in the workplace remains in force. In addition, the Permit does not relieve you of your obligations to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, Building Regulations approval, or some Waste Disposal Licences.

Note that the Permit requires the submission of certain information to the Local Authority (LA). In addition, the LA has the power to seek further information at any time under Regulation 60(2) EP Regulations provided that it acts reasonably.

#### Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with Requirement 46(1) EP Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

#### Variations to the Permit

This Permit may be varied in the future (by the LA serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

**PERMIT NO. 101**Surrender of the Permit

Where the Operator intends to cease the operation of an installation (in whole or in part) The LA should be informed in writing, such notification must include the information specified in Regulation 24 or Regulation 25 and Part I of Schedule 5 of the EP Regulations.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the LA considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit.

Talking to us

Please quote the Permit Number if you contact Charnwood Borough Council about this Permit. To give a Notification under Condition I the Operator should use the telephone number 01509 634636 or any other number notified in writing to the Operator by Charnwood Borough Council for that purpose.

Status Log

<u>Detail</u>	<u>Date</u>	<u>Comment</u>
Permit Determined	12 Oct 1999	
New Permit	19 Dec 2006	
Variation Notice	28 May 2008	Consolidated Permit
Variation Notice	9 March 2010	Draft Consolidated Permit

**Process Description**

The purpose of the process is the application of solvent and water based inks by 3 gravure machines (shown G6-G8 on plan 2/101) 5 flexographic printers (shown F1-F5 on plan 2/101, 3 of which are dedicated to water based inks) and 1 hot embossing machines (shown E5 on plan 2/101) onto paper and vinyl coated paper to produce wallpaper. The printed surface is then dried in heated ovens.

The process involves the mixing and blending of products to formulate solvent based inks using toner, mediums and solvents of the following part combination: ethyl acetate, N-propylacetate, MEK, Toluene, PM acetate.

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The annual quantity of solvent consumed during the coating process currently exceeds 100 tonnes in any 12-month period, but is below the 200 tonne threshold to constitute a part A (2) process.

The premise therefore consists of a single LAPC installation with one SED activity and no risk phrase substances have been identified.

**Plant Detail**

The site is located on the corner of Beeches Road and Windmill Road Loughborough (shown in yellow on Plan 01/101). It is currently bordered by residential premise on two sides of the site.

In the ink room, automatic mixers are provided with local exhaust ventilation via lip extraction although generally mixing is manual. Extraction of solvent vapour from the gravures, flexographic printers and hot emboss machines is via ducting to a regenerative thermal oxidiser (marked in blue on plan 2/101) connected to an 18 metre high stack.

**Plant Operation**

The inks are mixed from a combination of toner, medium and solvents. The solvents are stored prior to use in the bunded storage compounds (shown in brown on plan 2/101). Vapour evolved during automatic mixing is extracted and vented to atmosphere through the lip extraction system. The vapour evolved from the manual mixing is vented via the air extraction system for the room. Once mixed, ink containers are lidded to minimise fugitive emissions and transported in lidded buckets on trolleys to the printers.

Used solvents are collected and removed from the site to a solvent recovery process

**Principle Emissions**

Both the entrainment systems and the oxidiser have monitors and continuous data logging systems, fitted with high level alarms. The centralised exhaust duct is continuously monitored for: total exhaust airflow, total exhaust temperature, total exhaust solvent concentrations, individual machine run speed, average core temperature of the oxidiser, exhaust temperature of the oxidiser.

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The Vocsidizer regenerative thermal Oxidiser consists of a ceramic bed in an airtight steel container, above and below the bed are plenum chambers to facilitate the even distribution of air.

Air containing VOC's from the printing areas enters the Vocsidizer at the top of the chamber and flows downwards through a bed of ceramic material which is heated to high temperature, typically above 850 °C, to oxidisers VOC 's to water and CO<sub>2</sub>. After cooling in the lower part of the bed, clean air leaves the oxidiser via a lower plenum chamber.

In order to maintain the temperature profile in the bed and to maximise the heat exchange efficiency of the oxidiser, the air flow is reversed to allow air to flow upwards through the bed. This simultaneous changing of the air flow takes place on a cycle time of typically one and a half minutes.

Data is collected and stored on the Teledoc data logger situated in the Megtec control cabin and is manually downloaded at the end of production each week.

**End of Introductory Note.**

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**Anstey Wallpaper Company Ltd, Beeches Road, Loughborough.  
LE11 2NR**

The above named company is permitted to operate a paper coating activity subject to compliance with the following conditions:

**Permit Conditions**

Standard Conditions

1. If the operator proposes to make a change in operation of the installation he shall, at least 14 days before making the change, notify Charnwood Borough Council in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition 'change of operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.
2. The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the (installation) (mobile plant) which is not regulated by any other condition of this permit

**Emission Limits, monitoring and other provisions**

**Non - VOC Emissions**

3. The following non-VOC emission limit shall apply.

<b>Substance</b>	<b>Source</b>	<b>Emissions Limit</b>	<b>Monitoring Frequency</b>	<b>Monitoring Method</b>
Particulate matter	All process activities	50mg/Nm <sup>3</sup>  as 30 minute mean for contained sources	Annual	Manual extractive testing. See paragraphs 5.23,5.24,5.25 and 5.26 of PG6/18
Oxides of Nitrogen	From incinerators	100 mg/Nm <sup>3</sup>  as 30 minute mean for contained sources	Annual	Manual extractive testing. See paragraphs 5.23, 5.24,5.25 and 5.26 of PG6/18
Carbon Monoxide	From	100 mg/Nm <sup>3</sup>	Annual	Manual extractive

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	Incinerators			testing. See paragraphs 5.23, 5.24, 5.25 and 5.26 of PG6/18
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*All pollutant concentrations shall be expressed at reference condition 273k, 101.3kpa without correction for water vapour content.*

**VOC Emissions**

4. The following VOC emission limits shall apply.

VOC	Emission Limit/provision	Fugitive Emission Values	Monitoring frequency
Coating Installations  Solvent consumption 15 tonnes or more  Waste gases from oxidation plant used as abatement	50 mg Carbon/Nm <sup>3</sup>	20% of solvent input	Abated releases Continuous monitoring and recording. See paragraphs 5.21, 5.22 and 5.23 and SED Box 8 of PG 6/18 <b>Plus</b> Annual manual extractive testing. See paragraphs 5.23, 5.24, 5.25, 5.26 and SED Box 8 of PG 6/18 Unabated releases.
Any other unabated waste gases	75 mg Carbon/Nm <sup>3</sup>	20% of solvent input	Annual manual extractive testing see paragraphs 5.23, 5.24, 5.25, 5.26, 5.27 and SED Box 8 of PG 6/18 Fugitive Emissions. See SED Box 9 of PG 6/18

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**VOC Emissions – Reduction Scheme**

5. The company shall submit to Charnwood Borough Council, no later than 31 October 2007, an emission reduction plan for the site. The plan shall have regard to the standards and compliance dates laid down in PG6/18 (04), in particular to:-
- Decrease the average solvent content of the total input; and/or
  - Increase efficiency in the use of solids.
  - To achieve a reduction of the total emissions from the installation.

The plan shall, from the date of its approval form part of this Permit.

Reduction Scheme (No VOC Abatement)

6. The Target Emissions Value in the table below shall be complied with.

<b>Target Emission Value (Consumption above 15 Tonnes)</b>	
By the 31 October 2007	Mass of Solids X I

7. Calculate your emissions and demonstrate compliance with the target emission detailed above. Details of this calculation and evidence of compliance must be submitted (in the format detailed in appendix 3 of this permit) to Charnwood Borough Council **by 31 October 2007**.

A summary of the calculation required is given below:

Compliance with the reduction scheme is achieved if the annual actual solvent emission is less than or equal to the target emission. The target emission is calculated as follows;

- a) Total mass of solids in the quantity of coatings consumed in the activity in the inventory period (12 months).
- b) The target emission over the same period is equal to: -

**the result of paragraph (a) x I.**

This is the Target emission to be achieved by 31 October 2007 and every year thereafter

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(For further information, together with a spreadsheet to help record the data collected, see AQ 30(04) "Determination of compliance with Reduction Scheme" available on the Defra web site at): -

<http://www.defra.gov.uk/environment/airquality/lapc/aqnotes/index.htm>

**Solvent Management Plan**

8. The operator shall produce a Solvent Management Plan (SMP) that shall be updated annually. The Solvent Management Plan shall be produced using the definitions and calculations set out in PG 6/18 (04) figure 5.1 and reproduced in Schedule B of this permit and shall be submitted to the local authority by the 30 April each year. The SMP shall be used to determine the actual annual solvent emissions, which should be in the form of a mass balance calculation of your annual actual consumption of solvents.

**Risk Phrase Materials**

9. No designated risk phrase materials with risk phrases R45, R46, R49, R60 and R61 shall be introduced into this process/ activity without the prior notification and permission of an Authorised Officer from Charnwood Borough Council.

**Continued use of Solvents**

10. The operator shall by the 31 March each year undertake an annual review of the use of solvent based inks used on the site and record any reductions made in solvent usage. The review should include a summary of the findings of any water based ink trials and a justification for the continued use of solvent based inks for the next 12 months.

**Other Provisions****Monitoring, investigation and recording**

11. The thermal oxidiser shall be continuously monitored to determine core temperature, air flow and exhaust temperature from the oxidiser. The thermal oxidiser shall be fitted with audible and visual alarms which shall activate if the temperature falls below 800°C when the equipment served by the oxidiser is in operation and to warn of plant failure or malfunctions.
12. All instruments used for continuous monitoring shall be checked weekly and the information shall be downloaded on a weekly basis. All instruments used for continuous monitoring shall be maintained in good working order. They shall be calibrated in accordance with manufacturer's recommendations and at least once a year.

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13. The operator shall keep a record (log book) of all inspections, tests, monitoring including all non-continuous monitoring and visual assessments. The log book and any continuous monitor charts or records shall be kept on site and retained by the operator for a minimum of two years and made available for examination by an Authorised Officers of Charnwood Borough Council.
14. The operator shall provide a list of key abatement plant and shall have a written plan for dealing with failure.
15. The Operator shall notify Charnwood Borough Council at least 7 days in advance of any periodic monitoring exercise to determine compliance with the emission limit values specified in conditions 3 and 4 above. The Operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
16. The results of all non-continuous emission monitoring shall be forwarded to Charnwood Borough Council within 8 weeks of the completion of sampling.
17. In the event of any adverse results from any monitoring activity in relation to the limits specified in condition 3 and 4, the Operator shall investigate as soon as the results are obtained/received. The Operator shall:
  - Identify the cause and take corrective action
  - Record (in the log book) as much detail as possible regarding the cause and extent of the problems
  - Record the action taken by the Operator to rectify the situation
  - Re-test to demonstrate compliance as soon as possible and
  - Notify the Regulator.

**Visible and odorous emissions**

18. All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist.
19. All emissions to air shall be free from persistent fume and free from droplets.
20. All emissions shall be free from offensive odour outside the process boundary as perceived by Charnwood Borough Council (marked in green on plan 02/101).

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21. Visual and olfactory assessments of emissions from the thermal oxidiser shall be made at least once per day and recorded in the log book.
22. Emissions from combustion processes shall in normal operation be free from visible smoke and in any case shall not exceed the equivalent of Ringelmann Shade 1, as described in British Standard BS 2742 : 1969.
23. The Operator shall within 6 months from the date of this permit assess and review the emissions from the operation of the 'Popet' valves of the Thermal Oxidiser. This shall include an options appraisal of suitable methodology to prevent emissions from these valves to ensure that odour is not detectable at the site boundary. The results of this review shall include a BAT justification of the choices made. A summary of the BAT assessment shall be submitted to the LA together with a timescale to implement any necessary changes.
24. The Operator shall undertake an annual review of the airflows and solvent concentration to the thermal oxidiser to identify where further improvements can be made. An improvement programme together with the necessary timescale to implement the work should be forwarded to Charnwood Borough Council by the 31 March each year.
25. All emissions from the ink mixing room and solvent cleaning machine shall be vented to the thermal oxidiser so as to minimise fugitive emissions of solvents.
26. The operator shall within 6 months from the date of this permit devise and implement a procedure to monitor VOC concentrations and air flow from the ink mixing room and solvent cleaning machine to the thermal oxidiser. From this information the operator shall submit to Charnwood Borough Council by the 31 March each year, a report detailing the impact that these emissions have had on the thermal oxidiser and quantify the reduction of fugitive emissions achieved.

**Abnormal events**

27. Where abnormal emission, malfunctions or breakdown leading to significant escape of particulate matter, odour or fumes occur the Operator shall:
  - Investigate immediately and undertake corrective action
  - Adjust the process or activity to minimise those emissions and
  - Promptly record the events and actions taken in the logbook (within one working day).
28. The Regulator shall be informed immediately by telephone where:

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- the emission is likely to have an effect on the local community.
29. In cases where emissions are likely to cause an immediate danger to human health, the operation of the activity shall be suspended.

**Calibration and Compliance Monitoring**

30. Calibration and compliance monitoring shall meet the following requirements as appropriate:

No result shall exceed the emission concentration limit specified in condition 3 and 4 except where either:-

- a) Data is obtained over at least 5 sampling hours in increments of 30 minutes or less, or
  - b) At least 20 results are obtained where sampling time increments of more than 30 minutes are involved
- And in the case of a) or b)
- c) No daily mean of all 30 minutes mean emissions concentrations shall exceed the specified emission concentration limits during normal operation (excluding start-up and shut-down)

And

- d) No 30 minute mean emissions concentration shall exceed twice the specified emissions concentration limits during normal operations (excluding start-up and shut-down)

The introduction of dilution air to achieve the emissions concentration limits specified in condition 3 and 4 above shall not be permitted.

**Varying of monitoring frequency**

31. The frequency of testing shall be increased for example, as part of commissioning of new or substantially changed activities, or where emission levels are near to or approach the emission concentration limit given above.

**Sampling provisions**

32. Adequate facilities for sampling shall be provided on vents and ducts and the sampling points shall be designed to comply with British or equivalent standards.
33. All continuous monitors on the thermal oxidiser shall be operated, maintained and calibrated in accordance with the manufacturers' instructions.

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34. All continuous monitors readings should be on display to appropriately trained operating staff.
35. The thermal oxidiser shall be fitted with an audible and visual alarm. To warn of abatements plant failure or malfunctions

**Control Techniques****VOC and odour control – storage**

36. All drummed waste materials shall be inspected for leakage at least once per day. Any leakage identified shall be dealt with immediately, and the action taken recorded in the log book..
37. Spillage containment kerbs shall be provided to areas set aside for the storage of drums containing used solvent. Spillage containment kerbs shall also be provided around the bulk storage tank. The bunding shall:
  - i. Completely surround the bulk liquid storage tanks
  - ii. Be impervious and resistant to the liquids in storage and
  - iii. Be capable of holding 110%of the capacity of the largest storage tank.
38. The receipt, handling and storage of organic solvents shall be carried out so as to minimise the emission of volatile organic compounds to air.
39. The exterior of bulk storage tanks shall be light coloured to avoid excessive solar heat absorbency

**VOC control – handling**

40. All vessels or containers containing materials with an organic solvent content shall be lidded or enclosed when not in use.
41. All mixing, emptying and transfer of coatings or raw materials containing VOC's shall be undertaken in covered or closed vessels so as to minimise the emissions of VOC's.
42. Where inks containing volatile organic compounds are used in gravure and flexographic printing, the ink tanks and supply vessels shall be enclosed or in lidded containers

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**VOC Control – cleaning (including surface cleaning)**

43. The cleaning of plant and equipment (including application equipment) shall be carried out in such a way that emissions of volatile organic compounds to air are prevented or controlled to meet the requirements of conditions 3 and 4 of this permit.
44. The operator shall periodically review (at least once every 2 years) cleaning operations at the installation to identify opportunities for reducing VOC emissions. The results of this review, justification for the choices made together with timescales to implement any changes identified, shall be submitted to the Local Authority.

Residual ink/coating contained in parts of the application equipment shall be removed prior to cleaning.

45. Where equipment is cleaned off-line (such as screens, plates, drums, rollers and coating/ink trays) the cleaning shall be carried out using an enclosed cleanings system.
46. In order to prevent fugitive emissions the solvent wash machine should be full before it is used and if second or third washes are required these should be performed without opening the doors.
47. To ensure compliance with the fugitive emission requirements of the Solvent Emission Directive, **from the 31 October 2007** the exhaust duct system from the solvent wash machine shall be continuously monitored for exhaust airflow and solvent

**VOC Control - Operational**

48. Devise and implement a programme to monitor and record the consumption of coatings/organic solvents against product produced, to identify ways of minimising the use of organic solvent/coating.
49. All coating operations shall be carried out in the areas detailed on site layout plan ref 2/101. With all emissions from the printing machines vented to the thermal oxidiser to prevent fugitive emissions of odour and particulate matter.
50. All gravure and flexographic process using solvent based inks shall be provided with suitable extraction vented to the thermal oxidiser to achieve the emission limits specified in condition 3 and 4.
51. The operator shall record and submit to Charnwood Borough Council by the 31 March each year an annual VOC usage report. The report should identify where and prioritise how reductions in solvent usage will be made during the next 12 months.

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**VOC Control -Waste**

52. All potentially odorous waste materials shall be handled in accordance with a written procedure a copy of which shall be made available to the Local authority upon request.
53. All potentially odorous waste materials shall be stored in suitable enclosed container.
54. Prior to disposal, used wipes or other items contaminated with organic solvent shall be placed in a suitably labelled metal bin fitted with a self-closing lid, with the lid securely fastened at all times other than when in use. The bins shall be emptied at least daily to prevent a fire hazard or spontaneous combustion.
55. Used solvent and waste shall be recycled off site and copies of any receipts shall be kept for 3 years.
56. The location of open air storage areas for nominally empty drums and containers shall be carefully selected to meet the requirement of condition 19 and should include being:
- iv. sited on a suitably impervious floor
  - v. away from any drains which may become contaminated with residues as a result of spillage or leakage.
  - vi. away from sources of heat
  - vii. with access restricted to only appropriately trained staff

**General Control Techniques****Dust and spillage control**

57. A supply of absorbent material should be held on site for use in the event of spillage of organic solvents. Such spillages should be cleaned up immediately and the collected material should be held in an enclosed container pending removal from site.
58. All arising of dry dusty materials shall be stored in closed containers and handled in a manner that avoids emissions.

**Air Quality****Dispersion and dilution from stacks**

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59. Flues and ductwork shall be adequately insulated to minimise the cooling of waste gases and prevent liquid condensation on internal surfaces.
60. Flues and ductwork shall be inspected and cleaned as necessary to prevent accumulation of materials. Details of inspections shall be recorded in the log book and be made available for examination by an authorised representative of Charnwood Borough Council upon request.
61. Process stacks shall not be fitted with any restriction at the final openings such as a plate, cap or cowl. All discharge points should be vertically upwards.
62. No alterations in height above ground level shall be made to the final discharge point of any chimney, vent or other process exhaust without the prior written agreement of the Local Authority.
63. No additional chimney, vent or process exhaust shall be provided without the written consent of the Local Authority.

**Management****Training**

64. Staff at all levels shall receive the necessary formal training and instructions in their duties relating to control of the process and emissions to air. Particular emphasis shall be given to;
  - Awareness of their responsibilities under this permit in dealing with conditions likely to give rise to VOC emissions, such as in the event of spillage;
  - Minimising emission on start up and shut down
  - Action to minimise emissions during abnormal conditions
65. A statement of training requirements for each operational post and a training record shall be kept for each person whose actions may have an impact on the environment. These documents shall be kept available for inspection by representatives from Charnwood Borough Council.

**Management Techniques**

66. Effective preventative maintenance shall be employed on all aspects of the process including all plant, buildings and the equipment concerned with the control of emissions to air. In particular:

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- A Written maintenance, inspection and replacement programme for all aspects of the process shall be prepared, implemented and maintained and it shall be made available for inspection by representatives from Charnwood Borough Council.
  - A written record of all maintenance carried out shall be made available for the inspection by the regulator.
67. Essential spares and consumables, particularly those subject to continual wear, shall be held on site when the supplier is not able to provide items from stock within one working day, so that spray booth breakdowns can be rectified rapidly.

**Appropriate management Systems**

68. The activity shall operate in accordance with an effective management system which has been certified to the International Environment Management Standard ISO14001: 2004. This shall include a commitment to achieving compliance with the permit conditions and ensuring LAPC considerations are taken account of in the day-to-day running of the process. It may include establishing objectives for improved environmental performance by setting targets, measuring progress and revising the objectives according to results. The system shall include managing risks under normal operating conditions and in accident and emergency situations.
69. A high standard of housekeeping shall be maintained.

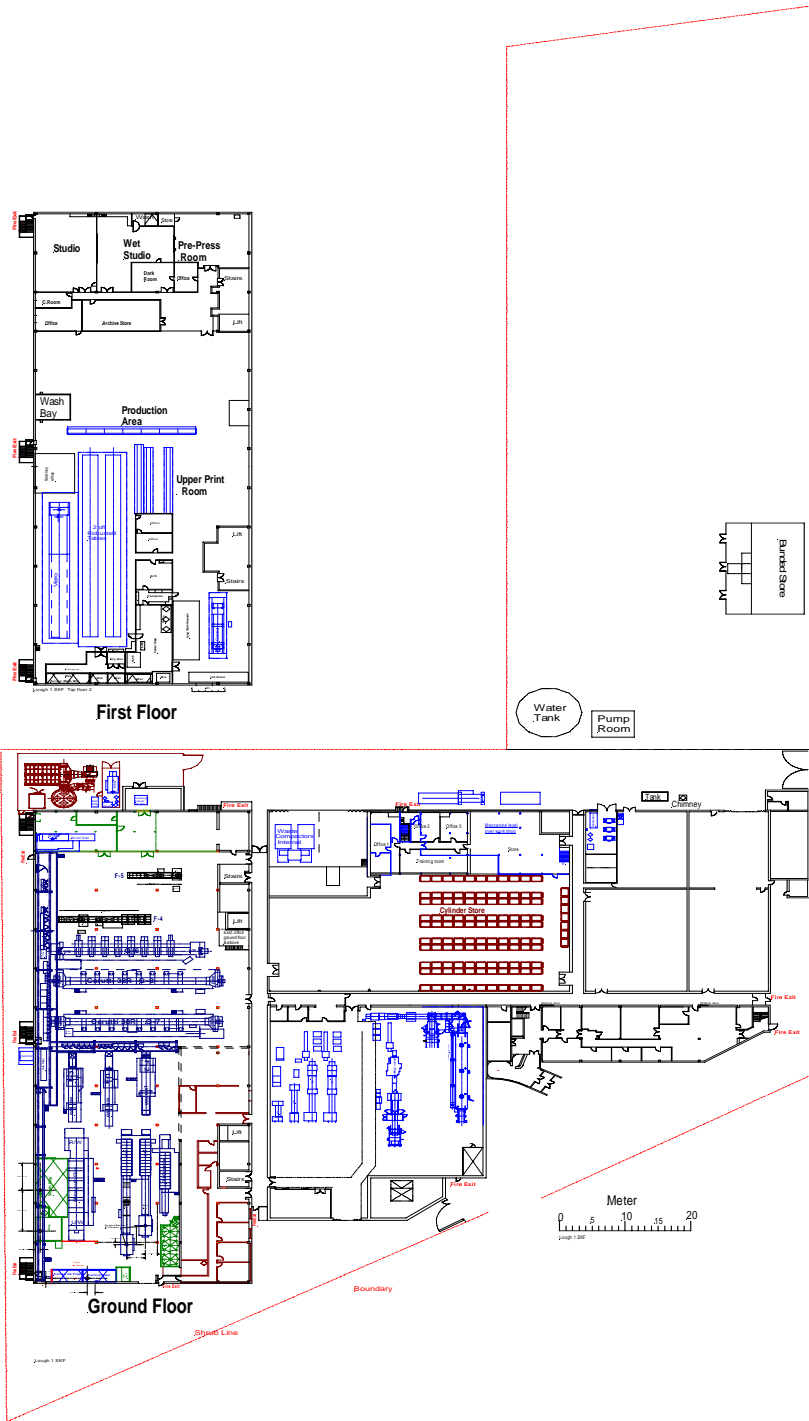
**End of Conditions**

**Appendix I**

**Site Location Plan (01/101)**

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**Appendix 3 Determination of Solvent Consumption, work sheet for PG6/18 (04)**

Solvent Management Plan		
Installation and address	For year (provide dates for accounting period)	Name and position of respondent
Consumption of organic solvent (C) Where C= I1-O8	Note – all data should be added in kilogrammes	Contact Tel No
I <sub>1</sub> is the total quantity of organic solvents or their quantity in preparations purchased which are used as input into the activity		
a) the mass of organic solvent contained in coatings, diluents and cleaners in the initial stock ( <b>IS</b> ) at the start of the accounting period.(in Kg)	b) the mass of organic solvent contained in coatings, diluents and cleaners in the purchased stock ( <b>PS</b> )during the accounting period. (in Kg)	c) minus the mass of organic solvent contained in coatings, diluents and cleaners in the final stock( <b>FS</b> ) at the end of the accounting period.(in Kg)
Total Organic Solvent Input (I <sub>1</sub> )=IS+PS-FS(in Kg)		
Organic solvents contained in preparations recovered for reuse(ie. solvent taken away by recycling company)(but not as input into the process/activity) (O <sub>2</sub> ) (in Kg)		
Actual consumption of organic solvent =		
Organic solvents contained in waste gases from stacks (O <sub>1</sub> )		
Organic solvents destroyed by abatement (O <sub>3</sub> )		
Organic solvents contained in collected solid waste (ie. solvent remaining in tins/on waste rags) (O <sub>4</sub> )		
Organic solvents contained in product (O <sub>7</sub> )		
Organic solvents used in recycling (O <sub>8</sub> )		
Fugitive emission = (I <sub>1</sub> – O <sub>1</sub> -O <sub>3</sub> -O <sub>4</sub> -O <sub>7</sub> -O <sub>8</sub> )		

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**SCHEDULE A**

All calibration and compliance monitoring from exhaust vents or stacks shall be carried out using the methods stated in PG6/18(04) namely:-

- i) Continuous flame ionisation detection method EN 13526 to determine the mass concentration of total gaseous organic carbon in flue gases from organic solvent using processes.
- ii) EN 13649 to determine the mass concentration of individual gaseous organic compounds
- iii) Non- continuous emissions monitoring of particulate matter should be carried out according to the main procedural provisions of BS ISO 9096:2003, with averages taken over operating periods excluding start-up and shutdown.
- iv) Emissions monitoring of nitrogen dioxide should be carried out in accordance with ISO 10849.
- v) Emissions monitoring of carbon monoxide should be carried out in accordance with ISO 12039.

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**SCHEDULE B**Determination of Solvent Consumption (reproduced from PG 6/18(04))

- 5.10 A determination of the organic solvent consumption, the total mass of organic solvent inputs minus any solvents sent for reuse/recovery off-site, should be made and submitted to Charnwood Borough Council annually, preferably to coincide with the operators stocktaking requirements, in the form of a mass balance in order to determine the annual actual consumption of organic solvent (c).

Where:  $C = I_1 - O_8$

$I_1$  Total quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity.

A calculation of the purchased organic solvent Input ( $I_1$ ) to the process/activity, is carried out by recording:

- (i) The mass of organic solvent contained in raw materials and preparations in the initial stock (IS) at the start of the accounting period; plus
- (ii) The mass of organic solvent contained in raw materials and preparations in the purchased stock (PS) during the accounting period.
- (iii) Minus the mass of organic solvent contained in raw materials and preparations in the final stock (FS) at the end of the accounting period.

Total Organic Solvent Input ( $I_1$ ) = IS + PS – FS

Solvent Management Plan

- 5.11 The Solvent Management Plan provides definitions and calculations to demonstrate compliance with the VOC requirements of this note. The use of the standard definitions and calculations also ensures consistency of VOC compliance across installations with an industrial sector.
- 5.12 The definitions provided must be used in all calculations relating to the Solvent Management Plan (SMP) (Figure 5.1).
- For SED installations using the emission and fugitive limits, the SMP should be used for determining the fugitive emissions (SED Box9). Once completed, it need not be done until the equipment is modified.
  - For process/activities using the reduction scheme, the SMP should be used to determine the actual emissions annually (paragraph 5.7).

Definitions

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The following definitions provide a framework for the mass balance calculations used in determining compliance.

Inputs of Organic Solvent in the time frame over which the mass balance is being calculated (**I**).

**I<sub>1</sub>** The quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity (including organic solvents used in the cleaning of equipment, but not those used for the cleaning of the products).

**I<sub>2</sub>** The quantity of organic solvents or their quantity in preparations recovered and reused as solvent input into the process/activity. (The recycled solvent is counted every time it is used to carry out the activity.)

Outputs of Organic Solvents in the time frame over which the mass balance is being calculated (**O**).

**O<sub>1</sub>** Emissions in waste gases.

**O<sub>2</sub>** Organic solvents lost in water, if appropriate taking into account waste water treatment when calculation **O<sub>5</sub>**.

**O<sub>3</sub>** The quantity of organic solvents which remains as contamination or residue in products output from the process/activity.

**O<sub>4</sub>** Uncaptured emissions of organic solvents to air. This includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings.

**O<sub>5</sub>** Organic solvents and/or compounds lost due to chemical or physical reactions (Including for example those which are destroyed, e.g. by thermal oxidation or other waste gas or waste water treatments, or captured, e.g. by adsorption, as long as they are not counted under **O<sub>6</sub>, O<sub>7</sub> or O<sub>8</sub>**)

**O<sub>6</sub>** Is Organic solvent contained in collected waste

**O<sub>7</sub>** Is Organic solvent contained in preparations, which are sold or are intended to be sold as commercially valuable product.

**O<sub>8</sub>** Is Organic solvent contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under **O<sub>7</sub>**.

**PERMIT NO. 101**

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**Explanatory Note**

This note does not comprise part of Permit Reference No. 101 but contains guidance for Operators receiving a permit.

1. Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State. Appeals must be sent within 6 months from the date of the permit (normally the date on the bottom of the permit).
2. Appeals must be made in accordance with the requirements of Regulation 31 and Schedule 6 of the EP Regulations and should be addressed as follows:

The Planning Inspectorate  
Environment Team, Major and Specialist Casework  
Room 4/04 Kite Wing  
Temple Quay House,  
2 The Square,  
Temple Quay,  
Bristol, BS1 6PN

3. An appeal brought under Regulation 31(b)(1) in relation to the conditions in a permit will not suspend the effect of the conditions appealed against: the conditions must still be complied with.
4. There are no forms or charges for appealing. However for an appeal to be valid, appellants are legally required to provide information as detailed in paragraphs 2(1) and (2) of Schedule 6 of the EP Regulations., namely:
  - I. A statement of the grounds of appeal
  - II. A copy of any relevant permit
  - III. A copy of any relevant correspondence between the appellant and the regulator
  - IV. A statement indicating whether the appellant wishes the appeal to be in the form of a hearing or dealt with by way of written representations.

At the same time, the notice of appeal and documents (I) and (IV) must be sent to the Council.

In determining an appeal against one or more conditions, the Regulations allow the Inspector or Secretary of State to affirm or quash conditions or to add new conditions.