



**POLLUTION PREVENTION AND CONTROL ACT 1999
 POLLUTION PREVENTION AND CONTROL (ENGLAND AND WALES)
 REGULATIONS 2000
 PERMIT OF PROCESS**

THIS IS TO CERTIFY THAT the coating of metals

at: **DCE DONALDSON LTD HUMBERSTONE LANE,
 THURMASTON LEICESTER LE4 8HP**

National Grid Ref: SK 614084

has been duly permitted in accordance with Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 subject to the conditions outlined in this document.

Name of Operator: DCE DONALDSON LTD
Registered Office HUMBERSTONE LANE, THURMASTON, LEIC. LE4 8HP

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 24 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 12, 15, and 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000

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

Signed on behalf of Charnwood borough Council

Dated 15 March 2006

Beverley Green, Specialist Environmental Health Officer
 (the delegated officer for the purpose)

Counter-signed.....

Directorate of Housing and Health, Environmental Protection,
 Southfields, Southfield Road, Loughborough LE11 2TX

PERMIT NO. 038

DCE DONALDSON LTD, HUMBERSTONE LANE, THURMASTON
LIECS, LE4 8HP

I.0 Process Description**I.1 Purpose**

The purpose of the process is to coat all steel components and the finished sheet steel cabinets with paint. All components go through an 8-stage pre-treatment using water-based chemical treatments, then pass on to a four-stage painting process. Primary processing is by full immersion in a series of tanks, then the products are subject to a finishing procedure. The whole process can be broadly divided into 5 main areas: pre-treatment, primer painting, stoving, finish painting, and drying.

Pre-Treatment

The 8-stage zinc-phosphating process involves the parts being dipped in turn into the following chemical tanks:-

- A1 Alkali degreasing tank 1 – based on sodium hydroxide heated to 65°C
- A2 Alkali degreasing tank 2 – sodium hydroxide heated to 65°C.
- A3 Cold water rinse
- A4 Repeat cold water rinse
- A5 Zinc phosphate tank - phosphoric acid at 60°C.
- A6 Cold water rinse
- A7 Repeat cold water rinse
- A8 De-mineralised water wash

Primer-Painting

The four stage primer painting process involves:-

- B1 Electrophoretic painting - A water based epoxy resin paint (75% water, 21% resin and pigment and 2% solvent) is applied by subjecting components to a 250 volt DC current during submersion.
- B2 Ultra-filtrate rinse
- B3 Repeat ultra-filtrate rinse
- B4 De-mineralised water wash**

Stoving

Curing is 180°C for 20 minutes. To allow the components to reach this temperature the oven is operated at 190°C and the process time is 50 minutes.

Finish painting process

This is by spray application in one of the two open-fronted booths. This operation is also in three stages: -

See Appendix 2/038 for the site layout.

C1 Preparation	The assembled unit is wiped by hand with a solvent soaked rag, inside one of the two booths.
C2 Painting	All final paint is applied using manually operated spray equipment. The paint is applied in two or three coats to the outside of the assembled unit. The unit is left within the booth to allow partial drying.
C3 Drying	The unit is removed from the booth and taken to an open drying area within the factory and left for 24 hours.

1.2 Plant Detail

The process utilises computer controlled transporters for the dipping tanks as part of the pre-treatment and prime paint application.

The main electrophoretic painting tank contains 17,000 litres of the water based epoxy resin. This solution is continuously circulated to prevent settlement of the pigment.

The stoving oven is fired by natural gas with a fully modulating burner and electronic temperature control. The oven incorporates forced air circulation with forced air curtains at both entrance and exit of the oven tunnel. There is an extract hood to the front of the oven with a ducted discharge to atmosphere (stack no.7 on Appendix 2/038). The oven exhaust is via a thermal incinerator (stack no.5 on Appendix 2/038).

The incinerator is fired by natural gas using a fully modulating burner. It operates between 700 - 720°C max in the combustion zone.

The incinerator outlet is via an air/air heat exchanger system prior to discharge. The heat exchanger allows preheated air to be supplied to the stoving oven.

The finish paint is applied in two Binks no-pump water wash booths. The fan extraction on each booth draws air and overspray into the wash chamber at the back. Finish paint is applied by manually air operated spray equipment.

Paintline data is recorded. This provides a continuous graphical record of the results.

An IBC dispensing system automates the pigment pre-mix and pouring operation which forms part of the 4-stage primer painting. The pigment is piped to a diaphragm pump and onwards directly to the point of use.

1.3 Plant Operation

All chemicals for the 8-stage pre-treatment are pumped into the process tanks. These are all water-based.

Resin and pigment is added in a bulk storage system which requires no manual handling of materials. Solvent is occasionally added manually into the paint tank.

When finish paints are required, they are withdrawn from the paint store and transported to one of the two spray booths by hand barrow on bunded stillages. Paint and solvent tins are opened outside the booths and the contents delivered to the spray equipment by a diaphragm pump. Special paints or colours are poured by hand into an open tin and mixed manually with solvent.

Any waste material from the primer process is pumped into the effluent treatment plant. Chemical additives promote settlement and the treated effluent is discharged into the sewerage system. The settled sludge is contained and every six weeks the tank is pumped out almost clean. The sludge is transported by road tanker for disposal.

All waste finish paint and solvent is manually gathered into 25-litre lidded tins. These are then recycled in a fully enclosed solvent boiler. Solvent is reclaimed and used for cleaning purposes. The remaining residue is treated as a special waste.

After coating, products are allowed to air dry within the booth. The tools used in the application of coatings, such as spray guns, mixing vessels, etc are cleaned after use. The cleaning agents vary according to the type of paint employed. All cleaning operations are carried out in the spray booth with the extract equipment running.

Residual paint and solvent waste are returned to the paint store for disposal.

Nominally empty paint tins are crushed and placed in an enclosed waste container and removed by an authorised waste company.

I.4 Solvent Emission Requirements

In order to reduce VOC emissions from the installation, two compliance options are available, these are:

- i) meeting emission BAT limit values in waste gases and fugitive emission limit values, or
- ii) implementing a solvent reduction scheme to reduce emissions from the installation equal to those that would have been achieved by meeting the emission limit values.

2.0 Non – VOC Emissions

2.1 The following non-VOC emission limit shall apply.

Substance	Source	Emissions Limit	Monitoring Frequency	Monitoring Method
Particulate matter	All process activities	50mg/Nm ³ as 30 minute mean for contained sources	Annual	Manual extractive testing. See paragraphs 5.23,5.24,5.25 and 5.26 of PG6/23
Carbon monoxide	Incinerator	100mg/Nm ³ as 30 minute mean for contained sources	Annual	Manual extractive testing. See paragraphs 5.23,5.24,5.25 and 5.26 of PG6/23
Nitrogen oxides measured as NO ₂	Incinerator	100mg/Nm ³ as 30 minute mean for contained sources	Annual	Manual extractive testing. See paragraphs 5.23,5.24,5.25 and 5.26 of PG6/23
Isocyanates	All process/activities using isocyanates	0.1mg/Nm ³ as 30 minute mean for contained sources excluding particulate and expressed as NCO	Annual	Manual extractive testing. See paragraphs 5.23,5.24,5.25 and 5.26 of PG6/23

2.2 All pollutant concentrations shall be expressed at reference condition 273k, 101.3kpa without correction for water vapour content.

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

No result shall exceed the emission concentration limit specified in the above table 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)
- 2.4 The introduction of dilution air to achieve the emissions concentration limits specified in condition 2.1 above, shall not be permitted.
- 2.5 The frequency of particulate 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 limits given above.
- 2.6 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.
- 2.7 All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist.
- 2.8 All emissions to air shall be free from persistent fume and free from droplets.
- 2.9 All emissions shall be free from offensive odour outside the process boundary as perceived by Charnwood Borough Council (marked in pink on Appendix I/38).
- 2.10 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 I, as described in British Standard BS 2742 : 1969.

3.0 VOC Emissions – Reduction Scheme

3.1 The company shall submit to Charnwood Borough Council, no later than 31 October 2005, an emission reduction plan for the site. The plan shall have regard to the standards and compliance dates laid down in PG6/23 (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

3.2 The Target Emissions Values in the table below shall be complied with.

Target Emission Values (Consumption Below 15 Tonnes)	
By 31 October 2005	From 31 October 2007
Total Mass of Solids X 0.9	Total Mass of Solids X 0.6

3.3 Calculate your emissions and demonstrate compliance with the first 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 March 2006**.

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 0.90.

This is the Target emission to be achieved by 31 October 2005

- 3.4 Calculate your emissions and demonstrate compliance with the second 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

The target emission from 31 October 2007 shall be calculated as follows:-

- a) Total mass of solids in the quantity of coatings consumed in the activity in the inventory period
- b) The target emission over the same period is equal to :-
the result of paragraph (a) x 0.6

This is the Target emission to be achieved by 31 October 2007

(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

- 3.5 A solvent management plan (SMP) shall be produced to determine the actual annual solvent Emissions; this should be in the form of a mass balance calculation of your annual actual consumption of solvents.

The SMP shall be prepared using the standard definitions and calculations in PG6/23 (04) figure 5.1 and shall be submitted on an annual basis to the local authority by the 30 April each year.

A summary of these calculations are given below:-

The actual annual solvent emission is found from the following equation.

Actual solvent emission = $I_1 - O_6 - O_7 - O_8$ (- O_5 if abatement has been used)

Where:

I_1 Is 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).

O_5 Is Organic solvents and/or organic 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_6 , O_7 or O_8).

O_6 Is Organic solvent contained in collected waste

O_7 Is Organic solvent contained in preparations, which are sold or are intended to be sold as commercially valuable product.

O_8 Is Organic solvent contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under O_7 .

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

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

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

The Solvent Management Plan should be used to design and implement a programme to monitor and record the consumption of coatings/organic solvents used, against product produced. Using this information opportunities for reducing solvent usage should be identified, assessed and where appropriate implemented. The SMP should also be used to provide information on solvent consumption, solvent emissions and compliance with the Regulations, for the Public.

The submission of the solvent management plan is in addition to the solvent inventories, however once completed it does not need to be completed again until the equipment is modified or there is a substantial change at the installation.

- 3.6 The assessment of compliance using the solvent inventory shall be undertaken a year in arrears. Any proposal, which would introduce a conventional high solvent coating system or replace a low or no solvent coating system or introduce a high solvent product into a process where it was not in use before, shall be approved by the local authority prior to installation.

Risk Phrase Materials

- 3.7 Designated risk phrase materials with risk phrases R45, R46, R49, R60, R61 shall be either replaced, controlled and or limited, as set out below

Row	Designated Risk Phrase Materials with risk phrase R45,R46,R49,R60,R61	
1	Requirements	Monitoring /timescales
	Replace as far as possible by less harmful substances or preparations	Within the shortest possible time
	Control under contained conditions as far as technically and economically feasible to safeguard public health and the environment.	By 31 October 2007
	Limit – where the sum of the mass flows of all the discharges of all the compounds causing the risk phrase labelling is greater or equal to 10 g/h a limit of 2 mg/Nm ³ for the mass sum of the individual compounds shall apply	Annual manual extractive testing See 5.23, 5.24,5.25,5.26, 5.27 and SED Box 8 of PG 6/23 (04) Compliance by 31 October 2007
Halogenated VOC with risk phrase R40		
2	Requirements	Monitoring/timescales
	Control under contained conditions as far as technically and economically feasible to safeguard public health and the environment	By 31 October 2007
	Limit – where the sum of the mass flows of all the discharges of all the compounds causing the risk phrase labelling is greater or equal to 100g/h, a limit value of 20 mg/Nm ³ for the mass sum of the individual compounds shall apply	Annual manual extractive testing See 5.23, 5.24,5.25,5.26, 5.27 and SED Box 8 of PG 6/23 (04) Compliance by 31 October 2007

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

4.0 VOC Emission Limits

4.1 When compliance is by means other than the solvent reduction scheme, with or without abatement the following VOC emission limits shall apply:-

VOC	Emission Limit	Type of Monitoring	Monitoring Frequency
All process activities Solvent consumption 5-15 tonnes where the mass emissions of VOC from an individual source is greater than 1kg in any 8 hour period.	VOC expressed as total carbon excluding particulate matter	Abated releases monitoring and recording. See 5.21, 5.22 and 5.23 of pg 6/23(04). Plus Annual manual extractive testing. See 5.23,5.24, 5.25 and 5.26	Abated releases Continuous monitoring PLUS Annual manual extractive
Waste gases from thermal oxidiser	100 mg/Nm ³ as 30 minute mean for contained sources	Non abated releases	Non abated releases
Any other waste gases	150 mg/Nm ³ as 30 minute mean for contained sources	Annual manual extractive testing. See 5.23, 5.24,5.25,5.26 and 5.27 of pg 6/23(04)	Annual manual extractive
By 31 October 2007 Coating installations solvent consumption 5-15 tonnes	VOC expressed as total mass of organic carbon	Fugitive Emission Values	Abated releases Continuous monitoring and recording See 5.21,5.22, 5.23 and SED Box 8
Waste gases from oxidation plant used as abatement	50 mg Carbon/Nm ³	25% of solvent input	PLUS Annual manual extractive testing. See 5.23,5.24,5.25,5.26,5.27 and SED Box 8
Any other waste gases	100 mg Carbon/Nm ³		Unabated releases Annual manual extractive testing. See 5.23,5.24,5.25,5.26,5.27 and SED Box 8. Fugitive Emissions See SED Box 9

- 4.2 The stoving oven incinerator shall be continuously monitored to ascertain the combustion chamber temperature.
- 4.3 All continuous monitoring instruments shall be checked regularly for correct functioning and calibrated in accordance with the manufacturer's recommendations.
- 4.4 All continuous monitoring readings shall be on display to appropriately trained operating staff.
- 4.5 Instruments shall be fitted with audible and visual alarms, situated appropriately to warn the operator of abatement plant failure or malfunction.
- 4.6 The activation of alarms shall be automatically recorded.

5.0 Monitoring, investigation and recording

- 5.1 The results of all inspections, tests, monitoring (including all non-continuous monitoring and visual assessments) shall be recorded onto computer. 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 representative of the Borough of Charnwood.
- 5.2 The Operator shall notify Charnwood Borough Council at least 7 days before any periodic monitoring exercise to determine compliance with the particulate emission limit values. The Operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
- 5.3 Within 8 weeks of the completion of monitoring activities, the result of non-continuous emission testing shall be forwarded to Charnwood Borough Council.
- 5.4 In the event of any adverse results from any monitoring activity in relation to the limits specified in condition 2.1,3.7 and 4.1, the Operator shall investigate as soon as the results are obtained/received. The Operator shall:
- Identify the cause and take corrective action
 - Record 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.
- 5.5 In the case of abnormal emissions, or malfunctions or breakdown leading to abnormal emissions 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
 - Notify the Regulator without delay, if the emission is likely to have an effect on the local community.

PERMIT 038

- 5.6 Visual and olfactory assessments of emissions of each stack serving the spray booths shall be made at least once per day and recorded in the log book.
- 5.7 A written management plan or contingency arrangements shall be maintained in order to deal with plant failure, emergency or breakdown which would have an effect on emissions to atmosphere.

6.0 Control Techniques**VOC Control – handling and storage**

- 6.1 All paint spraying operations shall be carried out in one of the two spray booths to prevent fugitive emissions of odour and particulate matter.
- 6.2 The receipt, handling and storage of organic solvents shall be carried out so as to minimise the emission of volatile organic compounds to air.
- 6.3 Spillage containment kerbs shall be provided to areas set aside for the storage of drums containing material with an organic solvent content.
- 6.4 All vessels or containers containing materials with an organic solvent content shall be lidded or enclosed when not in use.
- 6.5 All mixing, emptying and transfer of coatings or raw materials containing VOC's shall be undertaken in covered or closed mixing vessels so as to minimise the emissions of VOC's.

VOC Control – cleaning (including surface cleaning)

- 6.6 The cleaning of plant and equipment (including guns and other 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 2.7, 2.8 and 2.9 of this Permit.
- 6.7 No cleaning or degreasing shall be undertaken by immersing components or products in a tank containing solvent. All components requiring pre-treatment by immersion shall be prepared using water-based chemical treatments.
- 6.8 All spray gun testing and spray out, following cleaning shall be carried out in accordance with a written procedure a copy of which shall be made available to the local authority upon request. This should include a requirement that spray gun flushing following cleaning should be directed into the equipment cleaning machine with the extractor running or into a receptacle to collect the solvent, which is then put through the spray gun. When not in use, the receptacle should be kept lidded to prevent the evaporation and fugitive emission of solvent vapour.
- 6.9 Where fixed equipment is cleaned *in situ*, it should be kept enclosed during the cleaning operation. Where equipment breakdown or internal vessel cleaning operations necessitate vessel entry by personnel, it is essential for occupational safety reasons that adequate ventilation of the vessel is provided and in these circumstances, compliance with the requirements of 4.1 should not be required for the period that personnel are in the vessel..

PERMIT 038

- 6.10 Where equipment is cleaned off-line, it should be cleaned in enclosed cleaning machines wherever possible. Enclosed cleaning systems should be sealed to prevent emissions whilst in operation, except purging at the end of the cleaning cycle. If this is not practicable, emissions should be contained and vented to suitable arrestment equipment to meet the requirements of 4.1 above.
- 6.11 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.
- 6.12 The application of cleaning solvents shall be from a contained device, such as a piston type dispenser. Alternatively, pre-impregnated wipes shall be used which shall be stored in an enclosed container prior to use.
- 6.13 All surface cleaning/ coating activities shall be sited away from draughts, isolated from hot surfaces and welding operations and situated in a 'no smoking' area.

VOC Control - Operational

- 6.14 Devise and implement a programme to monitor and record the consumptions of coatings/organic solvents against product produced, to identify ways of minimising the use of organic solvent/coating.
- 6.15 Emissions from the stoving oven shall be adequately contained, and for this purpose the plant generating the air curtains at the exit and the entrance to the oven shall be the subject of preventative maintenance.
- 6.16 Emissions from all coating application areas shall be adequately contained by local exhaust ventilation.
- 6.17 Emissions from flash-off areas shall be adequately contained by local exhaust ventilation.
- 6.18 All stoving oven emissions shall be exhausted to suitable arrestment equipment, namely the thermal incinerator.
- 6.19 All ovens, ductwork and ancillary equipment shall, as far as possible, be made and maintained gas-tight to prevent the leakage of waste gases to air. An annual visual inspection of all ductwork shall be carried out for the purpose of complying with this condition.
- 6.20 The pigment and resin is delivered in and dispensed from a bulk storage system (IBC,s) piped into a diaphragm pump and then to point of use; thereby ensuring all stages of the delivery system are enclosed.

VOC Control -Waste

- 6.21 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. This shall include a procedure, where waste cleaning solvents, wipes, full or partially full and nominally empty containers, which hold or have held waste which contain organic solvents are stored in :-
- a. Suitable enclosed containers.

In addition by 31 October 2007 containers for storage of organic solvent and organic solvent contaminated materials shall be self-closing.

- 6.22 The storage of nominally empty drums, which have previously contained materials with an organic solvent content, or other odorous substances shall be effected in a manner to prevent the emission of volatile organic compounds and odours to air i.e. stored with lids securely fastened to minimise the emission of residues prior to disposal

The containers shall be clearly labelled prior to disposal, so that all that handle them are aware of their content and hazardous properties.

- 6.23 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 lids securely fastened at all times other than when in use.

This bin shall be lidded at all times to prevent a fire hazard or spontaneous combustion.

For material that may undergo spontaneous combustion, special bins that allow air to circulate beneath and around them to aid cooling, may be used.

- 6.24 The location of open air storage areas for nominally empty drums and containers shall be carefully selected to meet the requirement of condition 2.9 and should include being:
- a) sited on a suitably impervious floor
 - b) away from any drains which may become contaminated with residues as a result of spillage or leakage.
 - c) away from sources of heat
 - d) with access restricted to only appropriately trained staff

VOC Control - Dust and spillage control

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

7.0 Vents and Process Exhausts

7.1 The minimum height for process vents serving local exhaust ventilation as measured above roof ridge height are as follows:-

Stack	Height (m)	Process
1	0.4	DLM spraybooth
2	0.4	“ “
3	4.0	UMA spraybooth
4	4.0	“ “
5	2.2	Incinerator
6	3.2	Lip extraction
7	3.5	Oven hood
Positions are shown on Appendix 02/038)		

7.2 Process stacks 5, 6 and 7 (as shown on Appendix 2/038) shall normally be designed for an efflux velocity of not less than 15m/sec for normal load operation.

7.3 Process stacks 1,2,3 and 4 (shown on Appendix 2/038) shall have a linear velocity within the stack not exceeding 9m/sec.

7.4 Process vents shall not be fitted with any restriction at the final opening, for example, a plate, cap or cowl.

7.5 Stacks and ductwork shall be cleaned regularly to prevent the accumulation of material and inspected at least once every 12 months. Details of inspections shall be recorded on computer sited at the paint line office and be made available for examination by an authorised representative of Charnwood Borough Council upon request.

7.6 All chimneys and ducts shall be leak proof and insulated to minimise cooling of waste gases.

8.0 Management

- 8.1 A high standard of housekeeping shall be maintained.
- 8.2 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.
- 8.3 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
- 8.4 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.
- 8.5 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:
- 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.
- 8.6 The activity shall operate in accordance with an effective management system. 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 establish objective for improved environmental performance by setting targets, measuring progress and revising the objective according to results. The system shall include managing risks under normal operating conditions and in accidents and emergency situations.

Appendix I**Site Location Plan**

“ Reproduced from the Ordnance Survey map with the permission of the Controller of Her Majesty’s Stationery Office Crown Copyright 2000. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings”.

Appendix 2

Site Layout

PERMIT 038

Appendix 3Determination of Solvent Consumption, work sheet
for PG6/23 (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 date should be added in kilogrammes	Contact Tel No
I ₁ 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 (IS) 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 (PS)during the accounting period. (in Kg)	c) minus the mass of organic solvent contained in coatings, diluents and cleaners in the final stock(FS) at the end of the accounting period.(in Kg)
Total Organic Solvent Input (I ₁)=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 ₈) (in Kg)		
Actual consumption of organic solvent =		
Organic solvents contained in collected solid waste (ie. solvent remaining in tins/on waste rags) (O ₆)		
Annual actual solvent emission = (I ₁ -O ₈ - O ₆)		
Total mass of solids used (everything in the coatings except solvent and water)		
Site compliant by 2005	Is the total mass of solids x 0.9 equal to or more than the Annual actual solvent emissions	
Site compliant from 2007	Is the total mass of solids x 0.6 equal to or more than the Annual actual solvent emission	

EXPLANATORY NOTES

These notes do not comprise part of Permit Serial No.038 but contain guidance relevant to the Permit.

1. You should note that Regulation 12(10) of the Regulations provides that in relation to any aspect of the process not regulated by conditions 2.1 to 8.6 the best available techniques ('BAT') shall be used for the purpose of preventing or, where that is not practicable, reducing emissions into the air.

Section 3(7) of the Regulations describes 'BAT' as meaning the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

2. This Permit is issued under the Pollution Prevention and Control (England and Wales) Regulations 2000. 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 a Waste Disposal Licence.
3. Any proposed 'change in operation' in the process (within the meaning of Regulation 2(1)) shall be notified to Charnwood Borough Council as required by Section 16(1) of the Regulations.