



**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 and re-coating of rail vehicles

at: **Brush Traction Ltd, Falcon Works, Nottingham Road, Loughborough**

National Grid Ref: SK543208

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: Brush Traction Ltd
Registered Office P O Box 17, Nottingham Road, Loughborough, Leics.

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 17 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 ...18 September 2007.....

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

Counter-signed.....

Charnwood Borough Council
Southfield Road, Loughborough LE11 2TX

PERMIT NO. 053**Introductory note*****This introductory note does not form a part of the permit***

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No 1973), as amended, (“the PPC Regulations”) to operate an installation carrying out one or more of the activities listed in part B to Schedule I of the PPC 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 Permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

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 28 to the PPC Regulations provided that it acts reasonably.

Superseded Licences/Authorisations/Consents relating to this installation

Holder	Reference Number	Date of Issue
Brush Traction Ltd	053	19 September 2005

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

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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.

Surrender of the Permit

Where the Operator intends to cease the operation of an installation (in whole or in part) the regulator should be informed in writing, such notification must include the information specified in regulation 20(3) of the PPC 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 the LA about this Permit.

To give a Notification under Condition 5.1.1, the Operator should use the telephone number 01509 634636 or any other number notified in writing to the Operator by the LA for that purpose.

Status Log

<i>Detail</i>	<i>Date</i>	<i>Comment</i>
Permit issued	21 October 1993	
Variation Notice	15 April 1994	
Variation Notice	14 Feb 1995	
Variation Notice	16 August 2001	
Variation Notice	16 May 2002	
Variation Notice	19 September 2005	
Revised Permit	18 September 2007	

Process Description

The main features of the installation are as follows:

Purpose

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The purpose of these premises is to coat and/or recoat rail vehicles and metals after degreasing, using a variety of organic solvent based paints. The annual quantity of solvents consumed currently exceeds 5 tonnes in any 12-month period. The painting is by spray or brush application. Paint application is within booths.

The premises constitute a single installation with one SED activities and no risk phrase substances have been identified.

Plant Detail

The six spray booths are located in shops 25 and 34, and in the FID Shop (shown in pink on Plan 02/053). Coatings are normally allowed to air dry within the spray booths. The booths are a mix of dry filters and wet back types. Within Shop 25 there are three Devilbiss wet back booths and within Shop 34 there are two Eurospray dry back booths and there is a small paint booth in the FID shop.

There is no arrestment plant designed to control VOC emissions from this process. Particulate emissions controls from the spray booths are via the paper filters or water wash systems of the booths. Metals are degreased by hand, some are treated in the spray booths (shown in pink on Plan 02/053) prior to painting.

Plant Operation

Application of all coatings is by spray within one of the six spray booths. The process is a batch process. Paints and flammable solvents are stored in the three paint stores (shown in blue on plan 02/053) and distributed to the individual spray booths. Paints and solvents are mixed as necessary, either within or next to the booths. Prior to the paint application, some surfaces require degreasing. Degreasing is carried out by spraying and by hand. Paints are applied by spray or brush within the spray booth. After coating products are allowed to air dry within the booth. Some products are allowed to dry in the heated spray booth in 34 Shop.

End of Introductory Note.

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**BRUSH TRACTION LTD, FALCON WORKS, NOTTINGHAM ROAD,
LOUGHBOROUGH, LEICESTERSHIRE**

The above named company is permitted to operate the activities and /or associated activities as specified in table I below: -

Table I		
Activities listed in Schedule I of PPC Regulations/associated activity	Description of specified activity	Limits of specified activity
Section 6.4, Part B	Metal coating activity	From the receipt of raw materials onto the site to the dispatch of finished products and handling storage and removal of waste.

Subject to compliance with the following conditions:

Permit conditions

Emissions Limits and Controls

Non- Voc Emissions

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 15 minute mean for contained sources	Annual	Manual extractive testing. By methods as detailed in para 5.22,5.23,5.24 and5.25 of PG 6/41(04) and Schedule A of this permit

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

VOC Emissions – Reduction Scheme

2. 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 PG6/41(04), in particular to:-

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- 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)

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

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

The operator shall calculate their emissions and demonstrate compliance with the target emission detailed above. Details of this calculation and evidence of compliance must be submitted 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:-

- Total mass of solids in the quantity of coatings consumed in the activity in the inventory period
- 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

4. 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

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calculations set out in PG 6/41 (04) 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

5. 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 Officers from Charnwood Borough Council.

Other Provisions**Monitoring, investigation and recording**

6. 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 representative of the Borough of Charnwood.
7. The operator shall provide a list of key abatement plant and shall have a written plan for dealing with failure.
8. The Operator shall notify Charnwood Borough Council at least 7 days in advance of 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.
9. The results of all non-continuous emission shall be forwarded to Charnwood Borough Council within 8 weeks of the completion of sampling.
10. In the event of any adverse results from any monitoring activity in relation to the limits specified in condition I, 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

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- Notify the Regulator.

Visible and odorous emissions

11. All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist.
12. All emissions to air shall be free from persistent fume and free from droplets.
13. All emissions shall be free from offensive odour outside the process boundary as perceived by Charnwood Borough Council (marked in green on plan 02/053).
14. 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.

Abnormal events

15. 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).
16. The Regulator shall be informed immediately by telephone where:
 - the emission is likely to have an effect on the local community.
17. 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

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

No result obtained from non-continuous monitoring of particulate matter shall exceed the emission concentration limit specified in condition I except where either:-

- a) Data is obtained over at least 5 sampling hours in increments of 15 minutes or less, or

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- b) At least 20 results are obtained where sampling time increments of more than 15 minutes are involved
And in the case of a) or b)
- c) No daily mean of all 15 minutes mean emissions concentrations shall exceed the specified emission concentration limits during normal operation (excluding start-up and shut-down)
And
- d) No 15 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 I above shall not be permitted.

Varying of monitoring frequency

- 19 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 limit given above.

Sampling provisions

- 20. 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

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

- 21. Coating containing VOC'S (including thinners and cleaning solvents) shall be stored in closed storage containers.
- 22. All VOC storage containers shall be stored within bunded enclosed areas, except for point of use containers. The bunding shall be impervious, resistant to liquids and capable of holding 110% of the capacity of the largest stored container.
- 23. The receipt, handling and storage of organic solvents shall be carried out so as to minimise the emission of volatile organic compounds to air.

VOC control – handling

- 24. All vessels or containers containing materials with an organic solvent content shall be lidded or enclosed when not in use.

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25. 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)

26. 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.
27. 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
28. 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.
29. 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.
30. 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

31. 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.
32. During the spraying process, all doors and shutters to the paint spraying shops shall be kept closed. Sufficient inlet ventilation shall be provided to maintain comfort conditions without the need to use doors for ventilation in order that fugitive emissions are minimised. Where items being coated cannot be contained wholly within the building due to their length without protruding from a doorway or opening, the necessary opening shall be protected by strip curtaining or other enclosure to reduce fugitive emissions.

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VOC Control -Waste

33. 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.
34. All potentially odorous waste materials shall be stored in suitable enclosed contain
35. 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.
36. Used solvent and waste shall be recycled off site and copies of any receipts shall be kept for 3 years.
37. The location of open air storage areas for nominally empty drums and containers shall be carefully selected to meet the requirement of condition 12 and should include being:
 - i. sited on a suitably impervious floor
 - ii. away from any drains which may become contaminated with residues as a result of spillage or leakage.
 - iii. away from sources of heat
 - iv. with access restricted to only appropriately trained staff

General Control Techniques**Dust and spillage control**

38. All external spillages or significant deposits of particulate matter shall be cleaned immediately on detection using such methods as will minimize dissemination of dust.
39. 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.
40. All arising of dry dusty materials shall be stored in closed containers and handled in a manner that avoids emissions.

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Air Quality**Dispersion and dilution from stacks**

41. Flues and ductwork shall be adequately insulated to minimise the cooling of waste gases and prevent liquid condensation on internal surfaces.
42. Flues and ductwork shall be inspected and cleaned as necessary to prevent accumulation of materials.
43. 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.
44. 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.
45. No additional chimney, vent or process exhaust shall be provided without the written consent of the Local Authority.

Management**Training**

46. 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
47. 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

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48. 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.
49. 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

50. 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.

End of Conditions

SCHEDULE A

All calibration and compliance monitoring from exhaust vents or stacks shall be carried out using the methods stated in PG6/41(04) namely:-

BSISO 9096: 2003, with averages taken over operating periods excluding start-up and shut-down or an equivalent standard with the prior approval of Charnwood Borough Council.

Compliance monitoring for emissions from surface cleaning shall be carried out using the method stated in PG6/45(04), namely:-

- i) EN 13526 to determine the mass concentration of total gaseous organic carbon in flue gases
- ii) EN 13649 to determine the mass concentration of individual gaseous organic compounds

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Determination of Solvent Consumption (reproduced from PG 6/41(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).

$$\text{Where: } C = I_1 - O_8$$

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.

$$\text{Total Organic Solvent Input } (I_1) = IS + PS - FS$$

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)

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Definitions

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).

- I₁ 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).
- I₂ 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).

- O₁ Emissions in waste gases.
- O₂ Organic solvents lost in water, if appropriate taking into account waste water treatment when calculation O₅.
- O₃ The quantity of organic solvents which remains as contamination or residue in products output from the process/activity.
- O₄ 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.
- O₅ 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 O₆, O₇ or O₈)
- O₆ Is Organic solvent contained in collected waste
- O₇ Is Organic solvent contained in preparations, which are sold or are intended to be sold as commercially valuable product.
- O₈ Is Organic solvent contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under O₇.

SITE LAYOUT

EXPLANATORY NOTES

These notes do not comprise part of Permit Serial No.053 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 1 to 50 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.