Department for Environment Food & Rural Affairs

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Process Guidance Note 6/31(13)

Statutory guidance for powder coating including sherardizing and vitreous enamelling dry

December 2013

Llywodraeth Cymru
Welsh Government

DOE
Department of the Environment
www.doeni.gov.uk

The Scottish Government

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Any enquiries regarding this document/publication should be sent to us at:

Atmosphere and Local Environment
Defra
Nobel House
17 Smith Square
London
SW1P 3JR
Email: Control.Pollution@defra.gsi.gov.uk

Defra would like to acknowledge the work of the Environment Agency's Local Authority Unit in the drafting of this guidance note.

Revision of the guidance

The electronic version of this publication is updated from time to time with new or amended guidance. **Table 0.1** is an index to the latest changes (minor amendments are generally not listed).

Table 0.1 - Revision of the guidance		

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1. Introduction

Legal basis

1.1 This note applies to the whole of the UK. It is issued by the Secretary of State, the Welsh Government, the Scottish Government and the Department of the Environment in Northern Ireland (DoE NI) to give guidance on the conditions appropriate for the control of emissions into the air from powder coating processes including sherardizing and vitreous enamelling dry. It is published only in electronic form and can be found on the Defra website. It supersedes PG6/31(04) and NIPG6/31(Version 2, January 2005).

1.2 This guidance document is compliant with the Code of Practice on Guidance on Regulation page 6 of which contains the "golden rules of good guidance". If you feel this guidance breaches the code or you notice any inaccuracies within the guidance, please contact us.

1.3 This is one of a series of statutory notes giving guidance on the Best Available Techniques (BAT). The notes are all aimed at providing a strong framework for consistent and transparent regulation of installations regulated under the statutory Local Air Pollution Prevention and Control (LAPPC) regime in England and Wales, Scotland and Northern Ireland. The note will be treated as one of the material considerations when determining any appeals against a decision made under this legislation. Further guidance on the meaning of BAT can be found for England and Wales, Scotland, and Northern Ireland.

1.4 In general terms, what are BAT for one installation in a sector are likely to be BAT for a comparable installation. Consistency is important where circumstances are the same. However, in each case it is, in practice, for regulators (subject to appeal) to decide what are BAT for each individual installation, taking into account variable factors such as the configuration, size and other individual characteristics of the installation, as well as the locality (e.g. proximity to particularly sensitive receptors).

1.5 The note also, where appropriate, gives details of any mandatory requirements affecting air emissions which are in force at the time of publication, such as those contained in Regulations or in Directions from the Government. In the case of this note, at the time of publication, there were no such mandatory requirements.

1.6 Most of the activities covered by this note will have essentially the same characteristics and it is expected that the model permit and application form in **Appendices 1 and 2** will normally be used in order to simplify for business the process of applying for a permit and to simplify for regulators the process of issuing a permit. (See also the relevant LAPPC charging scheme for reduced application and subsistence charges for simplified permits).

If there are good reasons to consider diverging from normal use of the model permit, the starting point for drafting any additional conditions should be the arrowed bullets in the main body of this note.

Who is the guidance for?

1.7 This guidance is for:

Regulators

- local authorities in England and Wales, who must have regard to the guidance when determining applications for permits and reviewing extant permits;
- the Scottish Environment Protection Agency (SEPA) in Scotland, and district councils or the Northern Ireland Environment Agency (NIEA), in Northern Ireland;

Operators who are best advised also to have regard to it when making applications and in the subsequent operation of their installation;

Members of the public who may be interested to know what the Government considers, in accordance with the legislation, amounts to appropriate conditions for controlling air emissions for the generality of installations in this particular industry sector.

Updating the guidance

1.8 The guidance is based on the state of knowledge and understanding, at the time of writing, of what constitute BAT for this sector. The note may be amended from time to time to keep up with developments in BAT, including improvements in techniques, changes to the economic parameters, and new understanding of environmental impacts and risks. The updated version will replace the previous version on the Defra website and will include an index to the amendments.

1.9 Reasonable steps will be taken to keep the guidance up-to-date to ensure that those who need to know about changes to the guidance are informed of any published revisions. However, because there can be rapid changes to matters referred to in the guidance – for example to legislation – it should not be assumed that the most recent version of this note reflects the very latest legal requirements; these requirements apply.

Consultation

1.10 This note has been produced in consultation with relevant trade bodies, representatives of regulators including members of the Industrial Pollution Liaison Committee and other potentially-interested organisations.

Policy and procedures

1.11 General guidance explaining LAPPC and setting out the policy and procedures is contained in separate documents for England and Wales, Scotland and Northern Ireland.

When to use another note rather than PG6/31

1.12 The application of powders as a wet slurry is not covered by this note as it is not the application of coating in a dry form.

1.13 For digital printing, use PG6/16 Printing processes. This note (PG6/31) does not cover digital printing, which can use powder inks and fuse them by heat but also may use wet inks and other fusing techniques e.g. heat/pressure, pressure alone, chemicals or light.

1.14 For guidance on the removal of coatings from jigs and product by heat, use PG2/09. The Waste Incineration Directive (WID) may apply to these processes.

1.15 For guidance on degreasing using solvents, use PG6/45.

1.16 Other PG notes are provided for wet paint, varnish and solvent-based coatings, applying metal coatings by spraying in molten form and for galvanising:

- PG2/02 Galvanising
- PG2/09 Metal decontamination processes
- PG6/07 Coating of metal packaging
- PG6/08 Textile and fabric coating
- PG6/13 Coil coating
- PG6/14 Film coating
- PG6/15 Coating in drum manufacturing and reconditioning
- PG6/17 Printing of flexible packaging
- PG6/18 Paper coating
- PG6/20 Paint application in vehicle manufacturing
- PG6/23 Coating of metal and plastic
- PG6/33 Wood coating
- PG6/34 Respraying of road vehicles
- PG6/35 Metal and other thermal spraying processes
- PG6/40 Coating and recoating or aircraft and aircraft components
- PG6/41 Coating and recoating of rail vehicles
- PG6/45 Surface cleaning

2. Timetable for compliance and reviews

Existing processes or activities

2.1 This note contains all the provisions from previous editions which have not been removed. Some have been amended. For installations in operation at the date this note is published, the regulator should have already issued or varied the permit having regard to the previous editions. If they have not done so, this should now be done.

2.2 The new provisions of this note and the dates by which compliance with these provisions is expected are listed in **Table 2.1**, together with the paragraph number where the provision is to be found. Compliance with the new provisions should normally be achieved by the dates shown. Permits should be varied as necessary, having regard to the changes and the timetable.

Table 2.1 - Compliance timetable

Guidance	Relevant paragraph/row in this note	Compliance date
A simple permit and application form have been added in **Appendix 1** and **Appendix 2**.		
There are no new provisions in this note likely of themselves to result in a need to vary existing permit conditions. For a full list of changes made by this note, excluding very minor ones, see **Table 6.1**. See **paragraph 2.4**.		

2.3 Replacement plant should normally be designed to meet the appropriate standards specified for new installations/activities.

2.4 Where provisions in the preceding guidance note have been deleted or relaxed, permits should be varied as necessary as soon as reasonably practicable. It is expected that local authorities will aim to vary existing permits so as to convert them into the model permit format in **Appendix 1** within 12 months of the publication of this note.

2.5 For new activities, the permit should have regard to the full standards of this guidance from the first day of operation.

2.6 For substantially changed activities, the permit should normally have regard to the full standards of this guidance with respect to the parts of the activity that have been substantially changed and any part of the activity affected by the change, from the first day of operation.

Permit reviews

2.7 Under LAPPC, the legislation requires permits to be reviewed periodically but does not specify a frequency. It is considered for this sector that a frequency of once every eight years ought normally to be sufficient for the purposes of the appropriate Regulations. Further guidance on permit reviews is contained in the appropriate Guidance Manual for England and Wales chapter 26, Scotland, Practical guide section 10, Northern Ireland Part B Guidance page 9, Northern Ireland Part C Guidance chapter 17. Regulators should use any opportunities to determine the variations to permits necessitated by paragraph 2.2 above in conjunction with these reviews.

2.8 Conditions should also be reviewed where complaint is attributable to the operation of the process and is, in the opinion of the regulator, justified.

3. Activity description

Regulations

3.1 This note applies to LAPPC installations for the control of emissions into the air from processes that apply dry coating powders to substrates, cure or fuse them thermally or by UV (ultraviolet), and use more than 20 tonnes of coating powder in any period of 12 months. The activities for regulation are listed in **Table 3.1**.

Table 3.1 - Regulations listing activities

LAPPC Activity	England and Wales	Scotland	Northern Ireland
	EPR Schedule 1 reference	PPC Schedule 1 reference	PPC Schedule 1 reference
Part B	Section 6.4 Part B	Section 6.4, Part B	n/a
Part C	n/a	n/a	Section 6.4 Part C
The links are to the original version of the Regulations. A consolidated version is not available on www.legislation.gov.uk For England and Wales, an unofficial consolidated version is available but read the first page of that document in order to understand its status and content.			

3.2 Typical processes are:

- powder coating which uses organic powders;
- sherardizing, which uses zinc powder;
- vitreous enamelling (sometimes known as porcelain enamelling), which uses glass powders.

Sherardizing

3.3 Sherardizing is the coating of iron or steel with zinc/iron alloy. Items are slowly rotated in the presence of zinc dust, and an inert operating medium, for a few hours at temperatures of 320-500°C, often about 385°C. The zinc dust can pass through a 75micron sieve.

3.4 There is a 'triviality' exemption from Part B/Part C control. The following questions might be useful to regulators when considering whether a sherardizing activity is exempt. A positive answer to all of the following questions tends to support exemption.

- Is the fuel natural gas/electricity (as opposed to oil-fired combustion)?
- Are only products of combustion vented externally?
- If there is any acid pre-treatment, is it at ambient temperature?
- Are there no justifiable air pollution complaints against the sherardizing activity within the last two years or so?

3.5 Sherardizing can consist of the following steps:

- Pre-treatment can be acid pickling at ambient or raised temperatures;
- Coffins (the production vessels) are:
    - charged with the items to be coated, recycled sand and dust, fresh zinc/ alloy dust;
    - indirectly heated, rotated and the products of combustion vented externally;
    - unloaded and the product is separated from the sand and residual zinc dust on a shaking table. The table has extraction to control particulate matter which may vent back into the workplace after filtration.
- Sand and dust are recycled.

Mechanical plating

3.6 Mechanical plating (mechanical galvanising) is similar to sherardizing except that the process is carried out at room temperature.

3.7 There is a 'triviality' exemption from Part B/Part C control. The following questions might be useful to regulators when considering whether a mechanical plating activity is exempt. A positive answer to all of the following questions tends to support exemption.

- Is nothing vented externally?
- If there is any acid pre-treatment, is it at ambient temperature?
- Are there no justifiable air pollution complaints against the mechanical plating activity within the last two years or so?

Vitreous enamel

3.8 Vitreous enamel (called porcelain enamel in the USA) is a glass like coating fused, usually to metal. It can be applied as a powder or mixed with water (if it is applied wet then this note is not relevant (for solvent based coating activities, see paragraph 1.16). Usually two coats are applied and then fired once between 750 - 860°C. On aluminium/silicon coated steel (ALUSI) only one coat is required.

3.9 Vitreous enamel products include white goods, and, at a smaller scale of operation, London Underground signs, industrial parts, jewellery and craft items.

Powder coating

3.10 Powder coating systems using organic powders can be divided into thermosetting which react chemically once heated, and thermoplastic which melt each time they are heated. UV (ultraviolet) cured powders are also available.

3.11 Thermoplastic powder coating systems include:

- nylon;
- vinyls including PVC, PVDF (polyvinylidene fluoride);
- polyolefines e.g. polyethylene, polypropylene.

3.12 Thermosetting powder coating systems include

- polyester, (various cross linkers);
- epoxy;
- acrylic;
- hybrids.

3.13 Powder coating substrates include; metals, wood including reconstituted wood, ceramics and plastics. The range of powder coated products is wide and includes industrial, laboratory and consumer goods Examples include office and garden furniture, bicycles and cars, wooden surfaces such as kitchen units and skirting boards, white goods, and pipe and valve coatings.

3.14 Pre-treatment of the substrate can be mechanical or chemical. Mechanical cleaning includes abrasive blasting, ultrasonic cleaning and vibratory or tumbling methods. Chemical pre-treatment includes alkaline, acid (including pickling in strong acid), or neutral cleaning, and conversion (phosphating or chromating), followed by drying. Chromate conversion processes containing hexavalent chromium are increasingly being replaced by alternative, more environmentally-sound chemistries such as silane or titanium/zirconium based substances.

3.15 Application techniques for the powder include fluidized bed, and electrostatic spraying. The parts to be coated are suspended on batch carts or conveyors.

3.16 Fluidized beds are often used for thermoplastic powders. In a conventional fluidized bed dip process, preheated parts are dipped into the fluidized powder hopper and may need a short post-cure cycle e.g. 4 minutes. In an electrostatic fluidized bed, the powder is charged and adheres to the part, which then needs to be cured in the oven.

3.17 In electrostatic spray application, a spray gun imparts an electrostatic charge to the powder which is then attracted to a grounded workpiece. Powder is picked up from the feed hopper and transported by compressed air to the application gun. A generator supplies the charge on the gun. A control console allows the settings for the powder supply, the charge and the air pressure, to be controlled and monitored. The guns direct the spray pattern towards the articles being coated, which are earthed.

3.18 Manual guns are sometimes fed from a box to make colour changing easier. Automatic guns are usually fed from hoppers (5-125 kgs capacity). Types of automatic gun include powder bells and discs.

3.19 Booths contain the spraying operation (an air velocity of 0.5 to 0.75 metres per sec into booth openings is common), whilst keeping the powder concentration safely below the Lower Explosive Limit (LEL). Some booths can be moved on and off the production line. Some recover overspray for reuse.

3.20 The booth is provided with air extraction and this extracted air, containing over-spray powder, is carried over into filters, belt, cyclones or hybrid systems where the overspray powder is collected. As a large proportion of overspray will fall to the bottom of the booth by gravity, extraction is also provided at the bottom of the booth. The overspray powder is collected, sieved and can be reused, usually by mixing with fresh powder in the feed hopper. A final, or afterfilter, is fitted at the end of the air extraction system before air is discharged to outside or inside the factory. Particularly for short runs of many colours, spray-to-waste might be used, where recovered powder is not recycled.

3.21 The powder adheres by electrostatic forces and, coated with dry powder, the article can be transported to the oven without the powder falling off. It is then stoved and the powder is converted to a continuous film.

3.22 Ovens cure the coated powder by convected heat or infra-red radiation (IR). Curing time and temperature depend on the powder and substrate but broadly are within the range of 120-230°C. Temperatures throughout the oven are expected to be within ±6°C of the set point.

3.23 Oven flues discharge products of combustion above the factory roof.

Potential releases

3.24 The following parts of the organic powder process may give rise to particulate matter:

- handling powder or dust and waste dusts, bags and boxes;
- fluidized bed for applying powder;
- spraying powder;
- collecting, handling and preparing overspray for reuse;
- changing colour;
- booth cleaning.
- abrasive treatments of products and jigs (some older paints contained lead chromate)
- dry plating drums (mechanical plating can give rise to zinc dust);
- separation tables for sherardizing and mechanical plating.

3.25 The following parts of the process may give rise to other pollutants:

- pre-treatment of metal sheet with hydrochloric acid may give rise to hydrogen chloride and odour emissions;
- ovens may give rise to odour, carbon monoxide, particulate matter, volatile organic compounds;
- cooling zones after fluidized bed applicators may give rise to odour;
- PVC powder coated products may give rise to hydrogen chloride during post-heating (i.e. heating after the powder application).

4. Emission limits, monitoring and other provisions

4.1 Emissions of the substances listed **Table 4.1** should be controlled.

4.2 The emission limit values and provisions described in this section are achievable using the best available techniques described in **Section 5**. Monitoring of emissions should be carried out according to the method specified in this section or by an equivalent method agreed by the regulator. Where reference is made to a British, European, or International standard (BS, CEN or ISO) in this section, the standards referred to are correct at the date of publication. (Users of this note should bear in mind that the standards are periodically amended, updated or replaced.) The latest information regarding the monitoring standards applicable can be found at the Source Testing Association website. Further information on monitoring can be found in Environment Agency publications, M1 and M2.

4.3 All activities should comply with the emission limits and provisions with regard to releases in **Table 4.1**.

The reference conditions for limits in **Section 4** are: 273.1K, 101.3kPa, without correction for water vapour content, unless stated otherwise.

Table 4.1 should be considered in conjunction with the monitoring paragraphs found later in this section.

Table 4.1 - Emission limits, monitoring and other provisions					
Row	**Substance**	**Source**	**Emission limits/provisions**	**Type of monitoring (see note b)**	**Monitoring frequency**
1	Total particulate matter	Emissions from contained processes with an airflow greater than $50m^3$/minute	10 mg/m^3	Indicative monitoring (from vents over $50m^3$/min): • audible and visual alarms plus • extractive test	• continuous plus • annual
2	Hydrogen chloride	Hydrochloric acid pickling plant, where emissions are contained and extracted	30 mg/m^3 as 15-minute mean concentration	• extractive test	• annual
3	Hydrogen chloride	Wet arrestment plant for hydrogen chloride	30 mg/m^3 as 15-minute mean concentration	• extractive test **plus** • monitoring of liquor flow • visual inspection of arrestment plant, with recording of inspection results	• annual **plus** • continuous • once a week (or more)

Note 1:

a) Coating removal by heat – potential for odorous and particulate emissions – a purpose designed oven should be used (see PG 2/9).

b) The continuous monitoring provision should be disapplied where emissions do not exceed $10mg/m^3$ without the use of abatement plant. This should be demonstrated by a single representative sampling exercise. A further such monitoring exercise may be required in the event of a substantial change to the process.

Monitoring, investigating and reporting

4.4 The operator should monitor emissions, make tests and inspections of the activity. The need for and scope of testing, (including the frequency and time of sampling), will depend on local circumstances.

- The operator should keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. Records should be:
  - kept on site;
  - kept by the operator for at least two years; and
  - made available for the regulator to examine.
- If any records are kept off-site they should be made available for inspection within one working week of any request by the regulator.

Information required by the regulator

4.5 The regulator needs to be informed of monitoring to be carried out and the results. The results should include process conditions at the time of monitoring.

- The operator should notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator should state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
- The results of non-continuous emission testing should be forwarded to the regulator within 8 weeks of completion of the sampling.
- Adverse results from any monitoring activity (both continuous and non-continuous) should be investigated by the operator as soon as the monitoring data has been obtained. The operator should:
  - identify the cause and take corrective action;
  - clearly record as much detail as possible regarding the cause and extent of the problem, and the remedial action taken;
  - re-test to demonstrate compliance as soon as possible; **and** inform the regulator of the steps taken and the re-test results.

Visible emissions

4.6 The aim should be to prevent any visible airborne emission from any part of the process. This aim includes all sites regardless of location. Monitoring to identify the origin of a visible emission should be undertaken and a variety of indicative techniques are available.

- where ambient monitoring is carried out it may also be appropriate for the regulator to specify recording of wind direction and strength;
- where combustion units are in use for dryers then the combustion process should be controlled and equipment maintained as appropriate.

4.7 Emissions from combustion processes in normal operation should be free from visible smoke. During start up and shut down the emissions should not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742.

- All other releases to air, other than condensed water vapour, should be free from persistent visible emissions.
- All emissions to air should be free from droplets.

Where there are problems that, in the opinion of the regulator, may be attributable to the installation, such as local complaints of visual emissions or where dust from the installation is being detected beyond the site boundary, the operator should investigate in order to find out which part of their operation(s) is the cause.

If this inspection does not lead to correction of the problem then the operator should inform the regulator who will determine whether ambient air monitoring is necessary. Ambient monitoring may either be by a British Standard method or by a method agreed with the regulator.

Whilst problems are ongoing, a visual check should also be made at least once per day/shift, by the operator, when an installation is being operated. The time, location and result of these checks, along with weather conditions such as indicative wind direction and strength, should be recorded. Once the source of the emission is known, corrective action should be taken without delay and where appropriate the regulator may want to vary the permit in order to add a condition requiring the particular measure(s) to be undertaken.

Emissions of odour

4.8 The overall aim should be that all emissions are free from offensive odour outside the site boundary, as perceived by the regulator. However, the location of the installation will influence the assessment of the potential for odour impact as local meteorological conditions may lead to poor dispersion conditions. Where the site has a low odour impact due to its remoteness from sensitive receptors, the escape of offensive odour beyond the installation would be unlikely to cause harm.

4.9 Where there are problems that, in the opinion of the regulator, may be attributable to the installation, such as local complaints of odour or where odour from the installation is being detected beyond the site boundary, the operator should investigate in order to find out which part of their operation(s) is the cause.

4.10 Whilst problems are ongoing, a boundary check should also be made at least once per day/shift, by the operator, when an installation is being operated. The time, location and result of these checks, along with weather conditions such as indicative wind direction and strength, should be recorded. Once the source of the emission is known, corrective action should be taken without delay and where appropriate the regulator may want to vary the permit in order to add a condition requiring the particular measure(s) to be undertaken.

Abnormal events

4.11 The operator should respond to problems which may have an adverse effect on emissions to air.

- In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator should:
  - investigate and undertake remedial action immediately;
  - adjust the process or activity to minimise those emissions; **and**
  - promptly record the events and actions taken.
- The regulator should be informed without delay, whether or not there is related monitoring showing an adverse result:
  - if there is an emission that is likely to have an effect on the local community; **or**
  - in the event of the failure of key arrestment plant, for example, bag filtration plant or scrubber units.
- The operator should provide a list of key arrestment plant and should have a written procedure for dealing with its failure, in order to minimise any adverse effects.

Continuous monitoring

4.12 Continuous emissions monitors (CEMs) are normally either “quantitative” or “indicative”. With quantitative monitoring the discharge of the pollutant(s) of concern is measured and recorded numerically. For pollution control this measurement is normally expressed in milligrams per cubic metre of air, (mg/m^3). Where discharge of the pollutant concerned is controlled by measuring an alternative parameter, (the “surrogate” measurement), this surrogate is also expressed numerically.

Types of continuous monitoring for particulate matter

4.13 One of the basic issues in obtaining good results from a particulate CEM is to ensure that the instrument is fit for purpose – it must give a stable, reliable response and be able to operate in the long term without the need for maintenance or cleaning.

There are four categories of continuous particulate monitoring instruments used to satisfy regulatory requirements:

- **Quantitative instrument** – a particulate CEM which may be used to monitor mg/m3 continuously and can be calibrated to a very high standard with sophisticated automatic self-checking data quality-assurance (QA) capabilities.

- **Qualitative instrument** – quantitative CEMs may be used in qualitative mode, where data is still generated in a mg/m3 format but there is further uncertainty in the data.

- **Filter leak detector** – this indicative instrument monitors for changes in the operation of dust arrestment plant (typically a bag filter) and measures trends of plant operation over time. Importantly, the instrument has a QA self-check capability that influences confidence in the data that can be used for simple process control. In terms of alarms, step changes can be seen from analyses for trends over time.

- **Gross filter failure device** – a simple, indicative instrument that provides an alarm when there is a significant step-change in emissions i.e. rupture of a filter. They provide no information to improve plant performance, have no trend output or quality assurance features to provide confidence that they are working correctly.

A differential pressure gauge (a bag blinding detector) is also commonly fitted to a bagfilter to detect excessive pressure drop across the bags caused by bag blinding. This allows early detection of reduced filter suction and increased fan energy usage but, when used on a primary filter, a bag blinding detector provides no particle emission detection capability.

4.14 Where continuous monitoring is required, it should be carried out as follows:

- All continuous monitoring readings should be on display to appropriately trained operating staff.
- Instruments should be fitted with audible and visual alarms, situated appropriately to warn the operator of arrestment plant failure or malfunction.
- The activation of alarms should be automatically recorded.
- All continuous monitors should be operated, maintained and calibrated (or referenced, in the case of indicative monitors) in accordance with the manufacturers' instructions, which should be made available for inspection by the regulator.
- The relevant maintenance and calibration (or referencing, in the case of indicative monitors) should be recorded.
- Emission concentrations may be reported as zero when the plant is off and there is no flow from the stack. If required a competent person should confirm that zero is more appropriate than the measured stack concentration if there is no flow.
- Any continuous monitor used should provide reliable data >95% of the operating time, (i.e. availability >95%). A manual or automatic procedure should be in place to detect instrument malfunction and to monitor instrument availability.

Calibration and compliance monitoring

4.15 Compliance monitoring can be carried out either by use of a continuous emissions monitor (CEM), or by a specific extractive test carried out at a frequency agreed with the regulator.

4.16 For extractive testing the sampling should meet the following requirements:

- For batch processes, where the production operation is complete within, say, 2 hours, then the extractive sampling should take place over a complete cycle of the activity.

4.17 Should the activity either be continuous, or have a batch cycle that is not compatible with the time available for sampling, then the data required should be obtained over a minimum period of 2 hours in total.

- For extractive testing, no result of monitoring should exceed the emission limit concentrations specified.

4.18 Exhaust flow rates should be consistent with efficient capture of emissions, good operating practice and meeting the requirements of the legislation relating to the workplace environment.

- The introduction of dilution air to achieve emission concentration limits should not be permitted.

Dilution air may be added for waste gas cooling or improved dispersion where this is shown to be necessary because of the operational requirements of the plant, but this additional air should be discounted when determining the mass concentration of the pollutant in the waste gases.

Varying of monitoring frequency

4.19 Where non-continuous quantitative monitoring is required, the frequency may be varied. Where there is consistent compliance with emission limits, regulators may consider reducing the frequency. However, any significant process changes that might have affected the monitored emission should be taken into account in making the decision.

4.20 When determining "consistent compliance" the following are cases which might not qualify for a reduction in monitoring:

a) variability of results: cases where monitoring results vary widely and include results in the range 3 - 9mg/m^3 (when the emission limit is 10mg/m^3).

b) the margin between the results and the emission limit: cases where results over a period are 9 - 10mg/m^3 or more (when the emission limit is 10mg/m^3).

Consistent compliance should be demonstrated using the results from at least;

- three or more consecutive annual monitoring campaigns; **or**
- two or more consecutive annual monitoring campaigns supported by continuous monitoring.

Where a new or substantially changed process is being commissioned, or where emission levels are near to or approach the emission concentration limits, regulators should consider increasing the frequency of testing.

4.21 A reduction in monitoring frequency should not be permitted where continuous quantitative or indicative monitoring is required. These types of monitoring are needed to demonstrate at all times when the plant is operating, that either the emission limits are being complied with or that the arrestment equipment is functioning correctly.

Monitoring of unabated releases

4.22 Where emission limit values are consistently met without the use of abatement equipment, the monitoring requirement for those pollutants should be dispensed with subject to the “Varying of monitoring frequency” paragraphs above.

Where monitoring is not in accordance with the main procedural requirements of the relevant standard, deviations should be reported.

Representative sampling

4.23 Whether sampling on a continuous or non-continuous basis, care is needed in the design and location of sampling systems, in order to obtain representative samples for all release points.

- Sampling points on new plant should be designed to comply with the British or equivalent standards, (see paragraph 4.2).
- The operator should ensure that relevant stacks or ducts are fitted with facilities for sampling which allow compliance with the sampling standards.

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5. Control techniques

Summary of best available techniques

5.1 **Table 5.1** provides a summary of the best available techniques that can be used to control the process in order to meet the emission limits and provisions in **Section 4**. Provided that it is demonstrated to the satisfaction of the regulator that an equivalent level of control will be achieved, then other techniques may be used.

Techniques to control emissions from contained sources

5.2 The control techniques described below address the sources of pollutants listed in **Table 5.1**.

Particulate

- Emissions of particulate matter should be arrested if necessary to meet the emission limit.
- Abrasive blasting should be carried out in a specially designed booth and exhausts should be vented to suitable dust arrestment plant to meet the emission concentration limit specified in **Table 4.1**.

Pre-cleaning and acid pickling

- Where heated hydrochloric acid baths are used and mist or fume is emitted, emissions should be contained and vented to suitable arrestment plant, for example a scrubber, to meet the provisions of **Table 4.1**.
- Direct injection of steam into hydrochloric acid pickling baths should not be used.

Odour control

- Odour emissions are minimised by good oven temperature control, acid fume control, and not using the curing oven to clean jigs.

Hydrogen chloride

5.3 Emissions of hydrogen chloride from PVC coated product, are controlled by good temperature control of post heating, not overheating at the preheat, and if necessary by containing emissions and dispersing effectively.

Techniques to control fugitive emissions

Dust and spillage control

5.4 Adequate provision to contain liquid and solid spillage is needed. Closed containers can prevent wind whipping of dusty, dry waste materials such as arising from particulate arrestment plant. therefore:

- Empty powder packaging and dusty wastes should be stored in closed containers and handled in a manner that avoids emissions.
- Cleaning of particulate matter arrestment plant, coating application plant, and extract ductwork which may contain finely divided materials, should be carried out so as to minimise emissions into the air. Such maintenance and cleaning outside of buildings needs particular care.
- Cleaning of powder application booths (e.g. during colour changes) should be carried out with the booth extract and arrestment kept running.
- All spillages should be cleared as soon as possible; solids by vacuum cleaning, wet methods, or other appropriate techniques. Dry sweeping of dusty spillages should not be permitted.
- A high standard of housekeeping should be maintained.

5.5 If necessary, then

- Fume from the cooling zones after fluidized bed coaters should be captured and arrested.

Table 5.1 - Summary of control techniques		
Release source	**Substance**	**Control techniques**
Pre-treatment with hydrochloric acid	Hydrogen chloride	Arrest if necessary
Coating removal by heat	Odour	Use purpose designed oven and arrestment (see PG2/09)
Product and jig abrasive treatment	Particulate matter	Contain, arrest if necessary
Powder handling, application	Particulate matter	Contain, arrest if necessary
Powder overspray collection preparation and reuse		
Powder Colour change		
Heating of PVC	Hydrogen chloride	Control temperatures, if necessary contain and disperse
Dry plating drums	Particulate matter	Contain, arrest if necessary
Opening, cleaning equipment containing dry fine particles., inc arrestment plant	Particulate matter	Managed procedures
Flue gas	Smoke, carbon monoxide	Good combustion
	Sulphur oxides	Limit sulphur in fuel
	Odour, volatile organic compounds	Accurate temperature control, dispersion

Air quality

Dispersion & dilution

5.6 Pollutants that are emitted via a stack require sufficient dispersion and dilution in the atmosphere to ensure that they ground at concentrations that are deemed harmless. This is the basis upon which stack heights are calculated using HMIP Technical Guidance Note (Dispersion) D1. The stack height so obtained is adjusted to take into account local meteorological data, local topography, nearby emissions and the influence of plant structure.

The calculation procedure of D1 is usually used to calculate the required stack height but alternative dispersion models may be used in agreement with the regulator. An operator may choose to meet tighter emission limits in order to reduce the required stack height.

5.7 Where an emission consists purely of air and particulate matter, (i.e. no products of combustion or any other gaseous pollutants are emitted) the above provisions relating to stack height calculation for the purpose of dispersion and dilution should not normally be applied. Revised stack height calculations should not be required as a result of publication of this revision of the PG note, unless it is considered necessary because of a breach or serious risk of breach of an EC Directive limit value or because it is clear from the detailed review and assessment work that the permitted process itself is a significant contributor to the problem.

Ambient air quality management

5.8 In areas where air quality standards or objectives are being breached or are in serious risk of breach and it is clear from the detailed review and assessment work under Local Air Quality Management that the permitted process itself is a significant contributor to the problem, it may be necessary to impose tighter emission limits. If the standard that is in danger of being exceeded is not an EC Directive requirement, then industry is not expected to go beyond BAT to meet it. Decisions should be taken in the context of a local authority's Local Air Quality Management action plan. For example, where a permitted process is only responsible to a very small extent for an air quality problem, the authority should not unduly penalise the operator of the process by requiring disproportionate emissions reductions. Paragraph 59 of the Air Quality Strategy 2007 [Volume 1] gives the following advice:

"...In drawing up action plans, local authority environmental health/pollution teams are expected to engage local authority officers across different departments, particularly, land-use and transport planners to ensure the actions are supported by all parts of the authority. In addition, engagement with the wider panorama of relevant stakeholders, including the public, is required to ensure action plans are fit-for-purpose in addressing air quality issues. It is vital that all those organisations, groups and individuals that have an impact upon local air quality, buy-in and work towards objectives of an adopted action plan."

Stacks, vents and process exhausts

5.9 Liquid condensation on internal surfaces of stacks and exhaust ducts might lead to corrosion and ductwork failure or to droplet emission. Adequate insulation will minimise the cooling of waste gases and prevent liquid condensation by keeping the temperature of the exhaust gases above the dewpoint. A leak in a stack/vent and the associated ductwork, or a build up of material on the internal surfaces may affect dispersion:

- Flues and ductwork should be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.

5.10 When dispersion of pollutants discharged from the stack (or vent) is necessary, the target exit velocity should be 15m/s under normal operating conditions, however, lower velocities than 15m/s are acceptable provided adequate dispersion and dilution is achieved (see also the paragraph below regarding wet plumes). In order to ensure dispersion is not impaired by either low exit velocity at the point of discharge, or deflection of the discharge, a cap, or other restriction, should not be used at the stack exit. However, a cone may sometimes be useful to increase the exit velocity to achieve greater dispersion.

5.11 An exception to the previous paragraph is where wet arrestment is used as the abatement. Unacceptable emissions of droplets could occur from such plant where the linear velocity in the stack exceeds 9m/s.

5.12 To reduce the potential of droplet emissions a mist eliminator should be used. Where a linear velocity of 9m/s is exceeded in existing plant consideration should be given to reducing this velocity as far as practicable to ensure such droplet entrainment and fall out does not happen.

Management

Management techniques

5.13 Important elements for effective control of emissions include:

- proper management, supervision and training for process operations;
- proper use of equipment;
- effective preventative maintenance on all plant and equipment concerned with the control of emissions to the air; **and**
- ensuring that spares and consumables - in particular, those subject to continual wear – are held on site, or available at short notice from guaranteed local suppliers, so that plant breakdowns can be rectified rapidly. This is important with respect to arrestment plant and other necessary environmental controls. It is useful to have an audited list of essential items.

Appropriate management systems

5.14 Effective management is central to environmental performance; it is an important component of BAT and of achieving compliance with permit conditions. It requires a commitment to establishing objectives, setting targets, measuring progress and revising the objectives according to results. This includes managing risks under normal operating conditions and in accidents and emergencies.

It is therefore desirable that installations put in place some form of structured environmental management approach, whether by adopting published standards (ISO 14001 or the EU Eco Management and Audit Scheme [EMAS]) or by setting up an environmental management system (EMS) tailored to the nature and size of the particular process. Operators may also find that an EMS will help identify business savings.

5.15 Regulators should use their discretion, in consultation with individual operators, in agreeing the appropriate level of environmental management. Simple systems which ensure that LAPPC considerations are taken account of in the day-to-day running of a process may well suffice, especially for small and medium-sized enterprises. Regulators are urged to encourage operators to have an EMS for all their activities, but it is outside the legal scope of an LAPPC permit to require an EMS for purposes other than LAPPC compliance. For further information/advice on EMS refer to the appropriate chapter of the appropriate Guidance Manual for England and Wales, Scotland and Northern Ireland.

Training

5.16 Staff at all levels need the necessary training and instruction in their duties relating to control of the process and emissions to air. In order to minimise risk of emissions, particular emphasis should be given to control procedures during start-up, shut down and abnormal conditions. Training may often sensibly be addressed in the EMS referred to above.

- All staff whose functions could impact on air emissions from the activity should receive appropriate training on those functions. This should include:
  - awareness of their responsibilities under the permit;
  - steps that are necessary to minimise emissions during start-up and shutdown;
  - actions to take when there are abnormal conditions, or accidents or spillages that could, if not controlled, result in emissions.
- The operator should maintain a statement of training requirements for each post with the above mentioned functions and keep a record of the training received by each person. These documents should be made available to the regulator on request.

Maintenance

5.17 Effective preventative maintenance plays a key part in achieving compliance with emission limits and other provisions. All aspects of the process including all plant, buildings and the equipment concerned with the control of emissions to air should be properly maintained. In particular:

- The operator should have the following available for inspection by the regulator:
  - a written maintenance programme for all pollution control equipment; **and**
  - a record of maintenance that has been undertaken.

6. Summary of changes

The main changes to this note, with the reasons for the change, are summarised in **Table 6.1**. Minor changes that will not impact on the permit conditions e.g. slight alterations to the Process Description have not been recorded.

Table 6.1 - Summary of changes			
Section/paragraph/row	**Change**	**Reason**	**Comment**
1. Introduction			
Whole section	Simplification of text	Make note clearer	
	Addition of links	Change to electronic format	Removes need for extensive footnotes/references
Para 1.6 & 1.7	Introductory text to the simplified permitting (SP) regime	SP regime is new to Part B	
4. Emission limits, monitoring and other provisions			
Whole section	Used to be Section 5 in previous note	Section 4 in previous note deleted and potential emissions added into Section 3.	
Table 4.1, Row 1	Inclusion of a note that continuous monitoring requirements for plant with an airflow >50m^3/min can be disapplied where the ELV is met without abatement	Reduce burden on industry where consistent compliance can be demonstrated	
5. Control techniques			
Whole section	Used to be Section 6 in previous note	Section 4 in previous note deleted leading to re-numbering of sections	
Air Quality	Clarification of exhaust velocity requirements	Make note clearer	
Appendix 1	Inclusion of a new Appendix detailing a model application form for a simplified permit	Simplification of permitting process	
Appendix 2	Inclusion of a new Appendix detailing a model simplified permit		

7. Further information

Sustainable consumption and production (SCP)

Both business and the environment can benefit from adopting sustainable consumption and production practices. Estimates of potential business savings include:

- £6.4 billion a year UK business savings from resource efficiency measures that cost little or nothing;
- 2% of annual profit lost through inefficient management of energy, water and waste;
- 4% of turnover is spent on waste.

When making arrangement to comply with permit conditions, operators are strongly advised to use the opportunity to look into what other steps they may be able to take, for example, having regard to the efficient use of auxiliary fuels, such as gas and electricity. Regulators may be willing to provide assistance and ideas, although cannot be expected to act as unpaid consultants.

Health and safety

Operators of installations must protect people at work as well as the environment:

- requirements of a permit should not put at risk the health, safety or welfare of people at work or those who may be harmed by the work activity;
- equally, the permit must not contain conditions whose only purpose is to secure the health of people at work. That is the job of the health and safety enforcing authorities.

Where emission limits quoted in this guidance conflict with health and safety limits, the tighter limit should prevail because:

- emission limits under the relevant environmental legislation relate to the concentration of pollutant released into the air from prescribed activities;
- exposure limits under health and safety legislation relate to the concentration of pollutant in the air breathed by workers;
- these limits may differ since they are set according to different criteria. It will normally be quite appropriate to have different standards for the same pollutant, but in some cases they may be in conflict (for example, where air discharged from a process is breathed by workers). In such cases, the tighter limit should be applied to prevent a relaxation of control.

Further advice on responding to incidents

The UK Environment Agencies have published guidance on producing an incident response plan to deal with environmental incidents. Only those aspects relating to air emissions can be subject to regulation via a Part B (Part C in NI) permit, but regulators may nonetheless wish to informally draw the attention of all appropriate operators to the guidance.

It is not envisaged that regulators will often want to include conditions, in addition to those advised in this PG note, specifying particular incident response arrangements aimed at minimising air emissions. Regulators should decide this on a case-by-case basis. In accordance with BAT, any such conditions should be proportionate to the risk, including the potential for harm from air emissions if an incident were to occur. Account should therefore be taken of matters such as the amount and type of materials held on site which might be affected by an incident, the likelihood of an incident occurring, the sensitivity of the location of the installation, and the cost of producing any plans and taking any additional measures.

Appendix 1 - Model Permit

This Appendix contains a model permit for powder coating (sherardising/vitreous enamelling) installations – see [insert relevant para from introduction] of this note and paragraph 3.6 of the General Guidance Manual on Policy and Procedures.

Notes:

- text in the model permit written in italics is advice to regulators.
- text in the model permit in [square brackets] offers choice to regulators or indicates where information needs to be inserted from the application;
- text bracketed with asterisks (eg *Alarms shall be tested at least once a week*.) may be omitted by a regulator where the past performance of the plant gives the local authority sufficient reassurance about operator compliance – "earned recognition";
- the model permit has been drafted for local authorities in England and Wales. Regulators in Scotland and Northern Ireland will need to amend the legal heading and, where appropriate, references to 'Council';
- references to 'installation' will need to be substituted with 'mobile plant' in relevant cases, and other amendments made accordingly;
- the purpose of the activity description is to set down the main characteristics of the activity, including any directly associated activities, so it is clear to all concerned what is being authorised by the permit and therefore what changes would need further approval. Regulators are advised to include a description of any key items of abatement and monitoring equipment the operator intends to use or is using;
- it should normally be sufficient for records relating to simplified permits to be kept for no more than [24] months. Where, however, as a result of a 'low risk' rating, inspections are undertaken less often, regulators may want to specify a period which ensures the records are available at the next inspection.

[ ] COUNCIL
POLLUTION PREVENTION AND CONTROL ACT 1999
Environmental Permitting Regulations 2010 (as amended)

Permit ref. no:

Name and address of person (A) authorised to operate the installation ('the operator'): **Registered number and office of company:** (if appropriate)

Address of permitted installation (B)

The installation boundary and key items of equipment mentioned in permit conditions are shown on the plans attached to this permit.

Activity description

Conditions

The operator (A) is authorised to operate the activity[1] at the installation (B) subject to the following conditions.

Emissions

1. No visible particulate matter shall be emitted beyond the installation boundary.

Process controls

2. Odour emissions shall be minimised by:
    - controlling oven temperatures;
    - controlling acid fume emissions;
    - not using curing ovens to clean jigs.
3. [Direct injection of steam into hydrochloric acid pickling baths shall not be used]
4. [for wet scrubbers] The operator shall ensure that mist eliminators shall be fitted where there is potential for mist emissions.

Bulk, loose, dry material - storage and loading

5. Dusty materials (including dusty wastes) shall only be stored in [specify storage locations] [as detailed on the plan attached to this permit] and their storage and transfer shall be subject to suppression and management techniques to minimise dust emissions. No potentially dusty materials (including wastes) or finished products shall leave the site other than by use of [specify transport type and dust control technique].

Monitoring provisions *edit or delete conditions 7 & 8 according to monitoring requirements*

6. The emission requirements and methods and frequency of monitoring set out in **Table 1** shall be complied with. Sampling shall be representative.
7. All continuous monitors fitted to show compliance with the permit shall be fitted with a [visible] [audible] alarm warning of abatement failure or malfunction. They shall [activate when emissions reach [75%] of the relevant emission limit in Table 1 and] record automatically each activation. *Alarms shall be tested at least once a week.*
8. Any monitoring display required for compliance with the permit shall be visible to operating staff at all times. Corrective action shall be taken immediately if any periodic monitoring result exceeds a limit in **Table 1**, or if there is a malfunction or breakdown of any equipment which might increase emissions. Monitoring shall be undertaken or repeated as soon as possible thereafter and a brief record shall be kept of the main actions taken.
9. All plant and equipment capable of causing, or preventing, emissions and all monitoring devices shall be calibrated and maintained in accordance with the manufacturer's instructions. *Records shall be kept of such maintenance*.
10. The operator shall, in the case of abnormal emissions, inform the regulator without delay if there is an emission likely to have an effect on the local community.

[1] listed in [ ] in Part 2 of Schedule 1 to the Environmental Permitting Regulations

Records and training

11. Written or computer records of all tests and monitoring shall be kept by the operator for at least [24] months. They shall be made available for examination by the Regulator. *Records shall be kept of operator inspections, including those for visible and odorous emissions.*

12. Staff at all levels shall receive the necessary training and instruction to enable them to comply with the conditions of this permit. *Records shall be kept of relevant training undertaken*.

The following two conditions are not needed for PPC permits which transferred automatically into the environmental permitting regime by virtue of regulation 69(6) of the 2007 Regulations and regulation 108(4) of the 2010 Regulations. Where permits are issued on or after 6 April 2008 the conditions will not automatically apply and need specific inclusion in the permit where required.

Best available techniques

13. The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this permit.

14. If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator 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 in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

Permit writer to delete rows that do not apply

Table 1 - Emission limits, monitoring and other provisions					
Row	**Substance**	**Source**	**Emission limits/ provisions**	**Type of monitoring (see notes a – d)**	**Monitoring frequency**
1	Total particulate matter	Emissions from contained processes with an airflow greater than $50m^3$/minute	10 mg/m^3	Indicative monitoring from vents over $50m^3$/min: • audible and visual alarms plus • extractive test	• continuous plus • annual
2	Hydrogen chloride	Hydrochloric acid pickling plant, where emissions are contained and extracted	30 mg/m^3 as 15-minute mean concentration	• extractive test	• annual
3	Hydrogen chloride	Wet arrestment plant for hydrogen chloride	30 mg/m^3 as 15-minute mean concentration	• extractive test **plus** • monitoring of liquor flow • visual inspection of arrestment plant, with recording of inspection results	• annual **plus** • continuous • once a week (or more)
4	Droplets, persistent visible emissions	All releases to air (except steam and condensed water vapour).	No droplets, no persistent visible emissions	Visual observations	Daily, at the request of the regulator

Notes

a) The reference conditions for limits in Table 1 are: [273.1K, 101.3kPa], without correction for water vapour content, unless stated otherwise.

b) All periodic monitoring shall be representative and shall use standard methods.

c) *All periodic monitoring results shall be checked by the operator on receipt and sent to the Council within 8 weeks of the monitoring being undertake

d) The continuous monitoring provision should be disapplied where emissions do not exceed $10mg/m^3$ without the use of abatement plant. This should be demonstrated by a single representative sampling exercise. A further such monitoring exercise may be required in the event of a substantial change to the process.

e) Coating removal by heat – potential for odorous emissions – a purpose- designed oven should be used (see PG 2/9)

Right to appeal

You have the right of appeal against this permit within 6 months of the date of the decision. The Council can tell you how to appeal [*or supply details with the permit*]. You will normally be expected to pay your own expenses during an appeal.

You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates Court is £50,000 and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.

Our enforcement of your permit will be in accordance with the Regulators' Compliance Code.

Appendix 2 - Application form

Application for a permit for a powder coating, sherardizing or enamelling (dry) process

Local Authority Pollution Prevention and Control
Pollution Prevention and Control Act, 1999
Environmental Permitting (England and Wales) Regulations 2010

Introduction

When to use this form

Use this form if you are applying for a permit to a Local Authority to operate a powder coating, sherardizing or enamelling (dry) installation as defined in Schedule 1 to the Environmental Permitting Regulations.

The appropriate fee must be enclosed with the application to enable it to be processed further. When complete, send the form and the fee and any additional information to:

[Insert local authority address]

If you need help and advice

We have made the application form as straightforward as possible, but please get in touch with us at the local authority address given above if you need any advice on how to set out the information we need.

For the purposes of Section G of the form, a relevant offence is any conviction for an offence relating to the environment or environmental regulation.

For Local Authority use		
Application reference	Officer reference	Date received

LAPPC application form - to be completed by the operator

A The basics

A1 Name and address of the installation

Postcode: Telephone:

A2 Details of any existing environmental permit or consent

(for waste operations, include planning permission for the site, plus established use certificates, a certificate of lawful existing use, or evidence why the General Permitted Development Order applies.)

A3 Operator details

(The 'operator' = the person who it is proposed will have control over the installation in accordance with the permit (if granted).)

Name: Trading name, if different:
Registered office address: Principal office address, if different:
Company registration number:

A4 Any holding company?

Is the operator a subsidiary of a holding company within the meaning of section 1159 of the Companies Act 2006? If "yes" please fill in details of the ultimate holding company.

☐ Yes ☐ No

Name: Trading name, if different:
Registered office address: Principal office address, if different:
Company registration number:

A5 Who can we contact about your application?

It will help to have someone who we can contact directly with any questions about your application. The person you name should have the authority to act on behalf of the operator - This can be an agent or consultant.

Name and position: _____ Telephone: _____ Email: _____

B The installation

B1 Are you using powder coating, sherardizing or vitreous enamelling (dry) processes?

☐ Yes ☐ No

B2 Why is the application being made?

☐ new installation

☐ change to existing installation means it now needs a permit

B3 Site maps – please provide:

A location map with a red line round the boundary of the installation

Document reference: _____

A site plan or plans showing where all the relevant activities are on site:

a) where the processing plant will be installed

b) the areas and buildings/structures designated for materials and waste storage and the type of storage

c) the conveyors and transfer points

d) any directly associated activities or waste operations.

To save applying for permit variations, you can also show where on site you might want to use for storage etc in the future.

Document reference: _____

B4 Are there any sites of special scientific interest (SSSIs) or European protected sites nearer than any of the following distances to the proposed installation?

0.5km for all other Part B activities

☐ Yes ☐ No

If 'yes', is the installation likely to have a significant effect on the special scientific interest or European protected sites?

☐ Yes ☐ No

If 'yes', please write on a separate sheet or enclose a relevant document explaining what the implications are for the purposes of the Conservation (Natural Habitats etc) Regulations 1994 (see appendix 2 of Annex XVII of the general guidance manual)

Document reference: _____

B5 Will emissions from the activity potentially have significant environmental effects (including nuisance)?

☐ Yes ☐ No

If 'yes', please list the potential significant local environmental effects (including nuisance) of the foreseeable emissions on a separate document.

Document reference: _____

If 'yes', please enclose a copy of any environmental impact assessment which has been carried out for the installation under planning legislation or for any other purpose.

Document reference: _____

C The details

C1 Does your installation have abatement equipment, with external discharge points?
[informs Table 1, condition 6]

☐ Yes ☐ No

If no, please go to C2.

If yes, please mark all external emissions points on a plan to be provided with the application form:

Document reference: _____

If yes, what kind of abatement equipment is in place?

a) wet scrubber ☐ *(tick all that apply)*
b) bag filtration plant ☐
c) cyclones ☐
d) other - please specify _____

If yes, for any of your abatement equipment, is there an airflow of:
[informs Table 1, condition 6]

a) Under 50m^3/minute: ☐ (*tick all that apply)*
b) Over 50m^3/minute: ☐

C2 Does your installation have pickling plant using hydrochloric acid?
[informs Table 1, conditions 2 & 6]

☐ Yes ☐ No

If yes, do you have direct injection of steam into hydrochloric pickling baths?

☐ Yes ☐ No

C3 Do you have continuous monitors to show compliance with any numerical limit in Table 1 of the simple permit? *[informs Table 1 & condition 7]*

☐ Yes ☐ No

If yes, do the continuous monitors have alarms which are:

a) visible? ☐ (*tick all that apply)*
b) audible? ☐
c) records a trend output? ☐
d) alarm activation recorded automatically? ☐
e) is a trigger level set? ☐ Yes ☐ No

If so, at what percentage of the emission limit is the value set? ……%

C4 How do you clean jigs? *[informs condition 2]*

a) use of curing oven ☐ (*tick all that apply)*
b) use of separate,dedicated oven ☐
c) use of chemical-based process ☐

If so, please describe: _____

d) use of mechanical process:
If so, please describe: _____

e) other, please describe: _____

C5 Do you control and record oven temperatures? *[informs condition 2]*

☐ Yes ☐ No

C6 Will your process produce any dusty material or dusty waste? *[informs condition 5]*

☐ Yes ☐ No

If no, go to C8.

If yes, how will dusty matrial/dusty watse be contained?

a) bagged ☐ (*tick all that apply)*
b) lidded containment ☐
c) other – please specify: _____

C7 Will any dusty materials/dusty waste be stored externally? *[informs condition 5]*

☐ Yes ☐ No

If yes, facilities will be provided to store dusty waste externally?

a) covered storage area for bagged dusty materials ☐ (*tick all that apply)*
b) lidded containment for loose dust ☐

Please describe how loose dust is transferred from the source of loose dust to the storage area for loose dust:

_____

c) other, please specify: _____

C8 Do you have environmental management procedures and policy? *[informs condition 1, 2, 8, 9 , 10]*

☐ Yes ☐ No

D Anything else?

Please tell us of anything else you would like us to take account of:

Document reference: _____

E Application fee

You must enclose the relevant fee with your application.

If your application is successful you will also have to pay an annual subsistence charge, so please say who you want invoices to be sent to.

Name and position: Telephone: Email:

F Protection of information

F1 Any confidential or national security information in your application?

If there is any information in your application you think should be kept off the public register for confidentiality or national security reasons, please say what and why. General guidance manual chapter 8 advises on what may be excluded. *(Do not include any national security information in your application. Send it, plus the omitted information, to the Secretary of State or Welsh Ministers who will decide what, if anything, can be made public.)*

Document reference : _____

F2 Please note: data protection

The information you give will be used by the Council to process your application. It will be placed on the relevant public register and used to monitor compliance with the permit conditions. We may also use and or disclose any of the information you give us in order to:

- consult with the public, public bodies and other organisations;
- carry out statistical analysis, research and development on environmental issues;
- provide public register information to enquirers;
- make sure you keep to the conditions of your permit and deal with any matters relating to your permit;
- investigate possible breaches of environmental law and take any resulting action;
- prevent breaches of environmental law;
- offer you documents or services relating to environmental matters;
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004; (if the Data Protection Act allows)
- assess customer service satisfaction and improve our service.

We may pass on the information to agents/representatives who we ask to do any of these things on our behalf.

F3 Please note: it is an offence to provide false information

It is an offence under regulation 38 of the EP Regulations, for the purpose of obtaining a permit (for yourself or anyone else), to:

- make a false statement which you know to be false or misleading in a material particular;
- recklessly make a statement which is false or misleading in a material particular;
- intentionally to make a false entry in any record required to be kept under any environmental permit condition;
- with intent to deceive, to forge or use a document issued or required for any purpose under any environmental permit condition.

If you make a false statement:

- we may prosecute you; **and**
- if you are convicted, you are liable to a fine or imprisonment (or both).

G Declarations A and B for signing, please

These declarations should be signed by the person listed in answer to question A3. Where more than one person is identified as the operator, all parties should sign. Where a company or other body corporate is the operator, an authorised person should sign and provide evidence of authority from the board.

Declaration A: I/We certify

EITHER - As evidence of my/our competence to operate this installation in accordance with the EP Regulations, no offences have been committed in the previous five years relating to the environment or environmental regulation.

OR - The following offences have been committed in the previous five years which may be relevant to my/our competence to operating this installation in accordance with the regulations:

Signature:_____ Name:_____

Position:_____ Date:_____

Declaration B:

I/We certify that the information in this application is correct. I/We apply for a permit in respect of the particulars described in this application (including the listed supporting documentation) I/we have supplied.

(Please note that each individual operator must sign the declaration themselves, even if an agent is acting on their behalf.)

Signature:_____ Name:_____

Position:_____ Date:_____

Signature:_____ Name:_____

Position:_____ Date:_____

Signature:_____ Name:_____

Position:_____ Date:_____