

Notice of variation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

Precision Micro Limited

Vantage Way Site
Vantage Way
Erdington
Birmingham
B24 9GZ

Variation application number
EPR/FP3234PV/V003

Permit number
EPR/FP3234PV

Vantage Way Site

Permit number EPR/FP3234PV

Introductory note

This introductory note does not form a part of the notice

The following notice gives notice of the variation of an environmental permit.

Precision Micro Limited specialises in chemical machining of metal engineering components by selectively removing metal using etching solution.

This variation authorises the operation of a new acid etching process at the installation. The following changes have been made to the permit to reflect the addition of the process:

- Table S1.1 referred to in condition 2.1.1 is amended to include the reference to hydrofluoric acid and nitric acid in the description of specified activity; and
- Table S4.1 referred to in condition 3.1.1 is amended to include the new emission point A6.

In accordance with changes due to the Industrial Emissions Directive (IED) the Solvent Emissions Directive (SED) section 7 activities have been removed from the main Schedule of Table S1.1 and have now become Directly Associated Activities (DAAs).

The main features of the installation following the incorporation of the new etching process to the activities are as follows:

In preparation for etching, metal sheets are surface cleaned with an alkali spray followed by nitric acid to produce an electrolytic passivation onto the surface. The metal surface is rinsed and coated with a light-sensitive proprietary material. An image is developed over the metal surface by exposure of the photosensitive coating to UV against a photographic template. This leads to a hardening of the coating over selected areas of the metal surface. The unexposed photo-coating is washed off with a dilute alkali solution of and water leaving exposed metal ready for etching.

The exposed areas of metal on the prepared sheets are precision etched using ferric chloride then washed to remove all traces of etchant material. Commercial demand for titanium products means that a different chemical etchant and machine construction is required. Hydrofluoric acid has the ability to etch titanium under controlled conditions in order to achieve close tolerances. After etching, the sheets/components are immersed in a stripping solution to remove the remaining photo-coating. If required, the metal sheets are transferred over to the machine shop for pressing, folding, wire erosion and finishing.

12 etch machines and two stripping machines are in place for ferric chloride etching and a dedicated hydrofluoric acid etching process will now be operated on site. The etch machines are a series of enclosed chambers made predominantly from Polyvinyl Chloride (PVC) and non-corrosive metal. A bed of rollers is in the centre of the etch machines, which carry the metal sheets from which the components are cut. The sheets are laid flat on the rollers and are sprayed with heated etchant from above and below. When not in use the etchant lies in the sump of the machine.

Waste etchant solution can be processed on site or off site where it is neutralised. The solids are pressed from the neutralised waste solution and sent to landfill. The wastewater from the site goes to the local water utility operator. An on-site effluent treatment plant serves all processes producing wastewater to ensure all wastewater going to sewer meets the Severn Trent discharge consent limits.

Chemicals are stored in dedicated secure containers with appropriate sealed bunds and drainage. The hydrofluoric acid (waste and raw material) will be stored and treated inside the proposed unit. All storage tanks have a fixed capacity and alarm systems in place to ensure that these are not exceeded. Waste solutions are stored in an underground pit in tanks prior to disposal. Chlorine, hydrogen chloride, hydrofluoric acid, nitric acid and particulates are released from the etching process and are discharged to atmosphere following abatement by a wet scrubber. Emission limit values and monitoring and reporting requirements for particulate matter, hydrogen chloride, volatile organic compounds (VOCs), hydrogen fluoride and nitric acid have been set in the permit.

The Operator has an Environmental Management System certified under the International Standard ISO 14001:2004.

There are no surface water features on the site but there are two within a 300 metre radius of the installation boundary. There are no Sites of Special Scientific Interest (SSSI) located within 2km of the site. Seven SSSI's are located within 10km of the site but it is unlikely that the installation will have a significant impact on any of these sites. There are no European designated sites located within 10km of the site.

The schedules specify the changes made to the original permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application received FP3234PV/A001	Duly made 11/04/06	Application for photomechanical machining and precision etching installation.
Additional information received	14/08/06	Additional information regarding process control and operating parameters.
Permit determined FP3234PV/A001	03/11/06	Original permit issued to Precision Micro Limited.
Variation application EPR/FP3234PV/V002	Duly made 25/06/12	Application to add processes subject to the Solvent Emissions Directive.
Additional information received	20/07/12	Amended site plan.
Variation determined EPR/FP3234PV/V002	20/08/12	Varied permit issued.
Variation application EPR/FP3234PV/V003	Duly made 28/10/13	Application for the addition of hydrofluoric acid etching process.
Variation determined EPR/FP3234PV/V003	12/12/13	Varied permit issued.

End of introductory note

Notice of variation

Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies

Permit number
EPR/FP3234PV

issued to:
Precision Micro Limited ("the operator")

whose registered office is
Atlantic House Aviation Park West
Bournemouth International Airport
Christchurch
Dorset
England
BH23 6EW

company registration number **01745834**

to operate a regulated facility at
Vantage Way Site
Vantage Way
Erdington
Birmingham
B24 9GZ

to the extent set out in the schedules.

The notice shall take effect from 12/12/2013

Name	Date
C G Morris	12/12/2013

Authorised on behalf of the Environment Agency

Schedule 1 – conditions to be deleted

None

Schedule 2 – conditions to be amended

The following conditions are amended as a result of the application made by the operator:

Table S1.1 referred to in condition 2.1.1 is amended to:

Table S1.1 activities		
Activity listed in Schedule 1 of the PPC Regulations	Description of specified activity	Limits of specified activity
Section 4.2 A (1) (b) – “Unless falling within any other Section, any manufacturing activity which is likely to result in the release into the air of any hydrogen halide (other than the manufacture of glass or the coating, plating or surface treatment of metal) or which is likely to result in the release into the air or water of any halogen or any of the compounds mentioned in paragraph (a) (vi) (other than the treatment of water)”.	Chemical machining and etching of metal components with the use of ferric chloride, hydrofluoric acid and nitric acid.	Preparation of components; etching; regeneration of etching solution; removal of etching chemicals (stripping); forming and finishing.
Directly Associated Activity		
Raw material storage and handling	Storage of liquid and solid raw materials in tanks and containers.	From receipt of raw materials associated with the etching process and ancillary activities to transfer to process use
Storage and handling of waste materials	Storage and handling of waste materials arising from processing activities according to category, including preparation for disposal or recovery.	Generation of waste materials from etching and ancillary processes to storage for dispatch or recovery.
Operation of site abatement systems	Operation of neutralisation of rinses using calcium hydroxide before entering the effluent treatment plant to control releases to sewer; operation of wet scrubber to control releases to atmosphere.	Receipt and treatment of process releases to final discharge from the installation.
Schedule 14 Solvent Emission Activities	Lamination, development and finishing operations.	From receipt of solvents to dispatch of finished products.
Schedule 14 Solvent Emission	Preclean, stripping,	From receipt of solvents to dispatch

Activities	finishing and inspection operations.	of finished products.
------------	--------------------------------------	-----------------------

Table S1.2 referred to in condition 2.3.1 is amended to:

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application FP3234PV/A001	The response to section B2.1 and B2.2 in the application.	11/04/06
Request for further information dated 27/06/2006	Response to questions 1 - 15 detailing additional information regarding process control and operating parameters.	14/08/06
Variation application EPR/FP3234PV/V002	Documents reference C3.1.0 (excluding emission concentrations in Table 2); C3.2.1; C3.2.2; C3.2.4; C3.2.8; C3.2.10; and C3.2.11.	25/06/12
Variation application EPR/FP3234PV/V003	Responses to Part C2 and C3 of the application form and referenced supporting documentation.	28/10/13

Table S4.1 referred to in condition 3.1.1 is amended to:

Table S4.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit) Notes 1, 2, 3	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on the site plan in Schedule 4]	Particulate matter	Main process stack	20 mg/m ³	Extractive – 3 minutes per point minimum	Annually	BS EN 13284-1
A1 [Point A1 on the site plan in Schedule 4]	Chlorine	Main process stack	-	-	-	-
A1 [Point A1 on the site plan in Schedule 4]	Hydrogen chloride	Main process stack	10 mg/m ³	30 minute minimum	Annually	BS EN 1911
A2 [Point A2 on the site plan in Schedule 4]	Volatile organic compounds	Main process stack	75 mgC/m ³	1 hour average	Annually – minimum of three samples taken within 24 hours	BS EN 13526

A2 [Point A2 on the site plan in Schedule 4]	Chlorine	Chlorine scrubber (emergency dry chemical scrubber)	-	-	-	-
A3 [Point A3 on the site plan in Schedule 4]	Volatile organic compounds	Aerospace cell paint booth	100 mgC/m ³	1 hour average	Annually – minimum of three samples taken within 24 hours	BS EN 13526
A4 [Point A4 on the site plan in Schedule 4]	Volatile organic compounds	Lamination room	100 mgC/m ³	1 hour average	Annually – minimum of three samples taken within 24 hours	BS EN 13526
A5 [Point A5 on the site plan in Schedule 4]	Volatile organic compounds	Finishing department paint booth	100 mgC/m ³	1 hour average	Annually – minimum of three samples taken within 24 hours	BS EN 13526
A6 [Point A6 on the site plan in Schedule 4]	Hydrogen fluoride	Hydrofluoric acid etching plant	2 mg/m ³	1 hour average	Annually	BS ISO 15713
	Nitric acid		5 mg/m ³			USEPA M7d / TGN M22
	Particulates		4 mg/m ³			BS EN 13284-1
Note 1: Emission limit values for volatile organic compounds shall be complied with if: (a) the average of all the readings in one monitoring exercise does not exceed the emission limit values, and; (b) none of the hourly averages exceed the emission limit value by more than a factor of 1.5. Note 2: The emission limit values for volatile organic compounds released from points A3, A4 and A5 shall be 75 mgC/m³ if the annual solvent consumption in coating activities exceeds 15t/yr. Note 3: mgC/m³ means milligrams of substance expressed as carbon per cubic meter.						

Table S5.1 referred to in condition 4.2.2 is amended to:

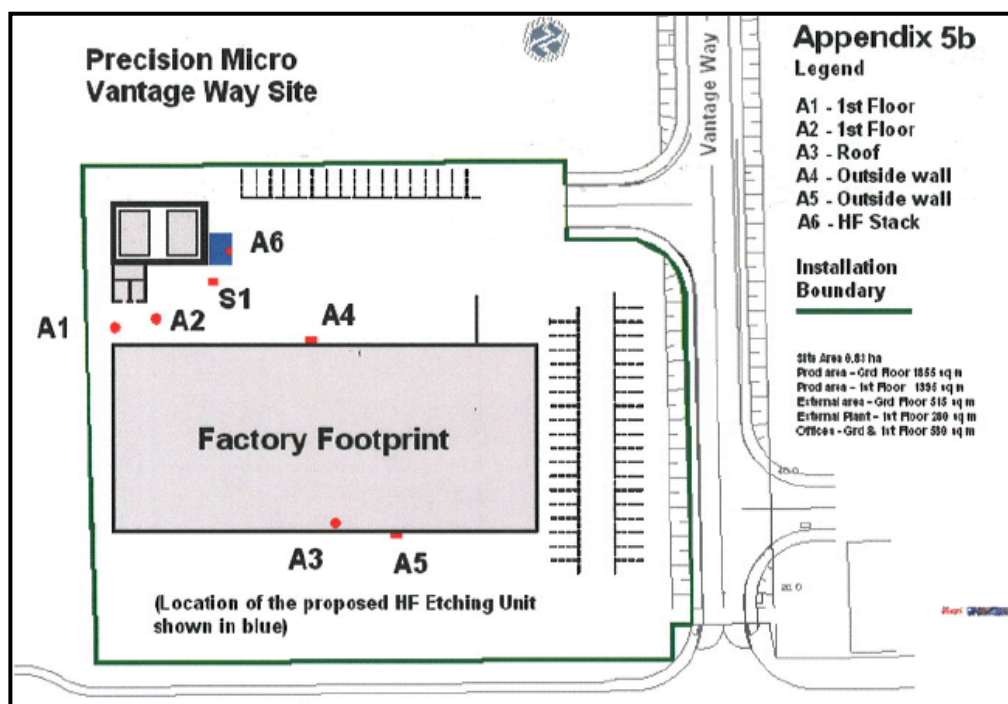
Table S5.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air parameters as required by condition 3.6.1.	A1, A3, A4, A5, A6	Every 12 months	01/01/2014

Schedule 3 – conditions to be added

None

Schedule 4 – amended plan

Amended plan attached



End of permit