

PERMIT AUTHORISATION REFERENCE: PPC / 70  
Hytech (Castings Manufacture) Ltd

Pollution Prevention and Control Act 1999  
Pollution Prevention and Control (England and Wales)  
Regulations 2000 as amended

Process Address	Hytech (Castings Manufacture) Ltd Barlow Road Aldermans Green Industrial Estate Coventry CV2 2LD
Process Type	Aluminium foundry
Current Operator	Hytech (Castings Manufacture)Ltd Foster Peschardt Denmark House 143 High Street Chalfont St Peter Bucks, SL9 9QL
Previous Operator	N/A
Date of Application	12 <sup>th</sup> July 1993
Date Permit Issued	October 2005

**POLLUTION PREVENTION & CONTROL (ENGLAND AND WALES)  
REGULATIONS 2000**

**DOCUMENT A : PERMIT**

**Hytech (Castings Manufacture) Limited**

Reference Number **PPC/70.**

Coventry City Council ("the Council") in accordance with Section 10(2) of the Pollution Prevention & Control (England and Wales) Regulations 2000 ("The Regulations"), hereby permits:

**Hytech (Castings Manufacture) Limited**

Whose registered office is:

**Hytech (Castings Manufacture) Limited  
Foster Peschardt, Denmark House  
143 High Street  
Chalfont St Peter  
Bucks, SL9 9QL**

**Registered in England No: 1743966**

to operate a Part B installation involving a coating activity, as prescribed in Section 6.4 Part B of Schedule 1 to The Regulations, at:

**Hytech (Castings Manufacture) Ltd  
Barlow Road  
Aldermans Green Industrial Estate  
Coventry  
CV2 2LD**

The permit is subject to the conditions specified in this document consisting of 13 pages and comprising documents A, B and C, plans PPC/70/A and Appendix 1.

Signed..........  
Alan Bennett, Head of Environmental Health  
A person authorised to sign on behalf of the Council

Dated .....24/10/05.....

## **SCOPE**

The installation comprises not just any relevant unit carrying out a Part B activity listed in Schedule 1 to the Regulations, but also directly associated activities which have a technical connection with that activity and which could have an effect on pollution.

All pollutant concentrations shall be expressed at reference conditions of 273K and 101.3kPa, without correction for water vapour content.

Technical Guidance documents used in the preparation of this document:

- Secretary of States Guidance Note PG 2/4(97) and PG 2/6(97)
- Secretary of State's Guidance – General Guidance Manual on Policy and Procedures for A2 and B installations. ISBN 0-85521-028-1

Date Annual Fee Required: 1st April of each financial year

Date For Full Compliance: Date permit issued

Permit Prepared By: Neil Wait

Permit Checked By: Michelle Muller

## **LEGISLATION**

1. Pollution Prevention and Control Act 1999.
2. Pollution Prevention and Control Regulations 2000 as amended, schedule 1 as amended

## **BRIEF DESCRIPTION OF THE INSTALLATION REGULATED BY THIS PERMIT**

Definitions referred to in this permit

- An **Activity** is an industrial activity forming part of an installation. Different types of activity are listed within Schedule 1 of the PPC Regulations and are broadly broken down into industrial sectors. Other “associated” activities may also form part of an installation.
- An **Installation** comprises not just any relevant unit carrying out a B activity listed within Schedule 1 to the PPC Regulations, but also directly associated activities which have a technical connection with a schedule 1 activity and which could have an effect on pollution.
- An **Operator** is the person (e.g. a company or individual) who has control over the operation of an installation.
- **Volatile organic compound (VOC)** shall mean any organic compound having at 293K a vapour pressure of 0.01 kPa or more, or having a corresponding volatility under the particular conditions of use.
- **Organic solvent** shall mean any VOC which is used alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials, or is used as a cleaning agent to dissolve contaminants, or as a dissolver, or as a dispersion medium, or as a viscosity adjuster, or as a surface tension adjuster, or a plasticiser, or as a preservative.
- **Stack** includes structures and openings of any kind from or through which substances may be emitted to air.
- **Duct** includes enclosed structures through which gaseous substances may be conveyed.
- **Process vent** includes open terminations of ducts.
- **Authorised Officer** shall mean an officer authorised to carry out duties under the Pollution Prevention and Control Act 1999 and subordinate regulations
- **Logbook** shall mean any electronic or paper means of storage of the required information as agreed by the regulator
- **Local Authority** shall mean Coventry City Council
- **"m"** means metre
- **"m/s"** means metres per second

The general location of the Authorised Process is marked in red on the attached plan PPC/70/A.

## Description of Installation

This permit is for the manufacture of aluminium castings within the process boundary outlined in red on the attached plan numbered 1.

The process commences with the delivery and storage of alloy ingots, resins and catalysts to a materials store and the delivery of sand to a storage hopper.

Sand is then mixed using resin and a catalyst as a bonding agent in a sealed ribbon-flow mixing machine to produce the moulds.

Aluminium alloy ingots with clean runners, risers and reject castings are then melted by the process of heating to 770 degrees centigrade by four electric furnaces.

The refining of metal, using metallic sodium as a grain refiner and powdered flux when necessary.

The manufacture of cold sand moulds and cast releasing in a partially enclosed knockout area.

The degradation of sand moulds and recycling of sand by the Omega thermal sand reclamation unit for future reuse in the sand mix.

**Table 1**

**List of Process Areas within the Installation and Associated Emission Points, Pollutants of Concern and Abatement Plant Required**

<b>Row Number</b>	<b>Area/Machinery Identification</b>	<b>Pollutants Emitted</b>	<b>Emission Limit in Permit</b>	<b>Abatement Plant Required</b>
1	Thermal Sand Reclamation Unit	Volatile Organic Compounds	VOC 30mg/m <sup>3</sup> ,	None
2	Whole Process	Particulate Matter	Free from visible smoke	None

## **DOCUMENT B**

### **CONDITIONS**

**All conditions shall have immediate effect unless stated otherwise.**

#### **1.0 EMISSION LIMITS AND CONTROLS**

- 1.1 All emissions to air shall be colourless, free from persistent mist and free from fume or droplets.
- 1.2 All emissions to air shall be free from visible smoke during normal operation and in any case shall not exceed the equivalent of Ringleman shade 1 as described in British Standard BS 27642:1969.
- 1.3 All emissions to air shall be free from offensive odour outside the process boundary as perceived by the Local Authority Inspector.
- 1.4 Emissions of volatile organic compounds from the thermal sand reclamation unit shall not exceed 30mg/m<sup>3</sup>.

#### **2.0 MONITORING, SAMPLING AND MEASUREMENT OF EMISSIONS**

- 2.1 The furnaces shall be continually monitored and regulated for temperature. The maximum temperature achieved by the aluminium shall be recorded in a logbook for each melting operation.
- 2.2 Any abnormal visual or olfactory emissions shall be investigated immediately and necessary corrective action taken. Details of the incident and corrective action taken shall be recorded in a logbook. The logbook shall be retained on site for a minimum of four years.
- 2.3 A detailed inventory of all organic solvents used shall be kept for at least four years. This shall include details of all solvents, organic resins and catalysts used. The inventory of the retrospective six monthly solvent usage shall be forwarded to the local authority every six months commencing at six months from the date of this authorisation. The inventory shall be forwarded within six weeks of the due date.
- 2.4 The results of any ambient air monitoring carried out within the processes boundary in order to demonstrate compliance with the Health and Safety at Work Act 1974 and its associated Regulations shall be forwarded to the Local Authority within nine months of this Authorisation being issued and at a frequency of no less than once yearly thereafter.
- 2.5 Emissions from the thermal sand reclamation plant shall be tested at least once a year for volatile organic compounds to demonstrate compliance with clause 1.4. The monitoring shall consist of a manual extractive test.

- 2.6 The results of all non-continuous emission testing shall be supplied, in writing, to the local authority within eight weeks of completion of the sampling.
- 2.7 The local authority shall be notified of any periodic monitoring carried out in accordance with Clause 2.5 not less than seven days prior to sampling taking place.
- 2.8 Adverse results from **any** monitoring activity (both continuous and non-continuous) shall be investigated by the operator as soon as the monitoring data has been obtained/received. The operator shall:
- identify the cause and take corrective action;
  - record as much detail as possible regarding the cause and extent of the problem, and the action taken by the operator to rectify the situation;
  - re-test to demonstrate compliance as soon as possible; and
  - notify the regulator.
- 2.9 In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator must:
- investigate immediately and undertake corrective action;
  - adjust the process or activity to minimise those emissions; and
  - promptly record the events and actions taken.
- 2.10 The regulator must be informed without delay if there is an emission that is likely to have an effect on the local community.
- 2.11 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. When determining “consistent compliance” factors to consider include:
- (a) the variability of monitoring results, for example, results which range from 15 – 45 mg/Nm<sup>3</sup>, against an emission limit of 50 mg/Nm<sup>3</sup> might not qualify for a reduction in monitoring; and
- (b) the margin between the results and the emission limit, for example, results which range from 45 - 50 mg/Nm<sup>3</sup> when the limit is 50 mg/Nm<sup>3</sup> might not qualify for a reduction in monitoring.
- 2.12 Consistent compliance shall be demonstrated using the results from at least:
- three or more monitoring exercises within two years; or
  - two or more monitoring exercises in one year supported by continuous monitoring.

- 2.13 Regulators, when considering reducing non-continuous monitoring frequencies shall take any significant process changes, which might have affected the monitored emission, into account.
- 2.14 The frequency of non-continuous quantitative monitoring shall be increased, for example, as part of the commissioning of new or substantially changed activities, or where emission levels are near to or approach the emission concentration limits.

### **3.0 FURNACE AND MELTING OPERATION**

- 3.1 Only virgin aluminium (alloy) ingots and clean, runners, risers and reject castings shall be melted in the furnace.
- 3.2 The use of flux during melting operations shall not exceed the manufacturers recommended dose.
- 3.3 When metal pouring is not taking place the furnaces shall

### **4.0 STACKS, DUCTS AND PROCESS VENTS**

- 4.1 Emissions from the breaking down of moulds shall only be emitted via the dust filtration system in the partially enclosed knockout area.

### **5.0 GENERAL OPERATIONS**

- 5.1 Emissions from the transfer of sand to the hopper shall only be emitted via the bag filters.
- 5.2 Any stocks of raw and recovered sand shall be stored in the hopper.
- 5.3 Containers of flux or resin shall be kept sealed when not being discharged in order to minimise potential spillage.
- 5.4 Spillages of flux material shall be cleared up according to the nature of the material.
- 5.5 Any spillage of liquid or solid matter shall be cleaned immediately.
- 5.6 Waste dross and sand shall be stored in lidded containers.
- 5.7 All residues produced including those produced by arrestment plant shall be segregated and stored so as to allow recycling or reuse of residues where appropriate.
- 5.8 The operator shall undertake regular cleaning and preventative maintenance including inspection and repair/replacement on all plant and equipment concerned with the emission, capture, transport and control of emissions to atmosphere. Where necessary manufacturers guidelines shall be used to determine the regularity of maintenance. Records of preventative maintenance including inspections and any

works undertaken shall be kept on site and made available to the local authority inspector on request.

- 5.9 Spares and consumables for plant and equipment used in the installation in particular that subject to continual use or wear shall be held on site or shall be available at short notice. Such plant or equipment shall not be used unless that plant or equipment is capable of working in accordance with the conditions of this permit.
- 5.10 Staff at all levels shall receive the necessary training and instruction in their duties relating to control of the activities and emissions to air. Records shall be kept which details all relevant training provided to staff, and these records shall be kept for a minimum of 2 years.
- 5.11 Any malfunction of plant or spillage of solvent based materials shall be remedied as soon as possible and process operations altered whilst the necessary work is undertaken.
- 5.12 Any incident likely to give rise to adverse atmospheric emissions or emissions that may have an impact on the local community shall be notified to the local authority immediately, and the details of incident including remedial action taken recorded in the process log book.
- 5.13 The operator shall make available on demand and without charge any of the records required to be kept by this permit.
- 5.14 Operators shall put in place some form of structured environmental management system (EMS), whether by adopting published standards (ISO 14001 or the EU Eco Management and Audit Scheme [EMAS]) or by setting up an EMS tailored to the nature and size of the particular process.
- 5.14 If there is any intention to change any aspect of the prescribed installation from the description contained in the beginning of this permit, or any other aspect which may affect the substances or concentration or amount of substances being emitted to atmosphere, the operator shall notify the regulator of the proposed changes at least 4 weeks in advance before the changes take place.

## **DOCUMENT C**

### **RESIDUAL DUTY**

In relation to any aspect of the process not regulated by specific conditions in this permit, then Best Available Techniques shall be used:

For the purposes of the Pollution Prevention and Control (England and Wales) Regulations 2000, “best available techniques” means 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 practicable, generally to reduce emissions and the impact on the environment as a whole; and for the purpose of this definition –

- a) “available techniques” means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, in the economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator;
- b) “best” means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;
- c) “techniques” includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

## **SUPPLEMENTARY NOTES**

These notes do not comprise part of the Permit PPC/70 but contain guidance relevant to the Permit.

### **Inspections and Powers of Entry**

Regular inspections will be carried out by officers of the Council (the Local Authority Inspectors) to check and ensure full compliance with the Permit conditions and residual duties. These inspections may be carried out without prior notice.

Under section 108(6) of the Environment Act 1995 authorised Local Authority Inspectors have been granted powers of entry into any premises for the purposes of discharging relevant duties.

### **Reviews**

The Local Authority has a statutory duty to review the permit at least once every 6 years or in the following circumstances set out in regulation 15 of the Pollution Prevention and Control regulations 2000:

- a) The pollution from the installation is of such significance that the existing emission limit values for the permit need to be revised or new emission limit values need to be included in the permit
- b) Substantial changes in BAT make it possible to reduce emissions from the installation or mobile plant significantly without imposing excessive costs; or
- c) Operational safety of the activities carried out in the installation or mobile plant requires other techniques to be used

### **Health and Safety**

This Permit is given in relation to the requirements of the Pollution Prevention and Control (England and Wales) Regulations 2000. It must not be taken to replace any workplace responsibilities the operator has under Health & Safety legislation. Whenever emission limits quoted in this Permit conflict with occupational exposure limits set under the Health and Safety at Work Act 1974 to secure the health, safety or welfare of persons at work, the tighter limit should prevail.

Installation must be operated in order to protect persons at work as well as the environment. In achieving conditions in this Permit the operator must not adopt any course of action that would put at risk the health, safety or welfare of persons at work.

### **Other Statutory Requirements**

This Permit does not detract from any other statutory requirement, such as the need to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, building regulations approval, or a waste disposal licence.

This Permit does not authorise a contravention of any other enactment or any order made, granted or issued under any enactment, nor does it authorise a contravention of any rule or breach of any agreement.

The Operator is advised to consult the relevant Planning Department regarding changes that may be required as a result of this Permit (e.g. stack heights) as they may require planning permission.

### **Transfer of Permits**

Where the operator of an installation wishes to transfer, in whole or in part, his permit to another person, the operator and the proposed transferee shall jointly make an application to the regulator to effect the transfer. Such an application shall be accompanied by the permit and any fee prescribed in respect of the transfer.

In the case of partial transfer, where the original operator retains part of the permit, the application must make clear who will retain control over the various parts of the installation. The application must include a plan identifying which parts of the site and which activities the operator proposes transferring.

The local authority will then determine whether to allow the transfer within a two-month period, unless the local authority and the applicants agree a longer period. Where the local authority approves the transfer, the transfer will take effect from the date requested by the operator or a date that may be agreed by the local authority and the applicants.

### **Variation to Permits**

Variation to permits may be initiated either by the local authority or the operator, either in response to changes in the operation of an installation or if new conditions are needed to deal with new matters. Variations may be required in response to the following.

- Change of operation of the installation. (The operator shall notify the local authority under Section 16(1) of the Regulations.)
- In response to the findings of a periodic review of conditions.
- In response to the findings of an inspection.
- New or revised sector guidance notes

The operator should apply to the Local Authority in order to vary a permit under regulation 17 of the Regulations. The application must be in writing and, in accordance with Part 1 of Schedule 7 to the Regulations contain:

- The name, address and telephone number of the operator.
- The address of the installation.
- A correspondence address.
- A description of the proposed changes.
- An indication of the variations the operator would like to make.
- Any other information the operator wants the authority take account of.

### **Substantial Change**

A substantial change means, in relation to an installation, a change in operation, which in the opinion of the local authority may have significant negative effects on human beings or the environment.

Where the local authority deems that a proposed variation constitutes a substantial change, the operator will be informed of the process to follow.

### **Noise**

This Permit does not include reference to noise. Statutory noise nuisance is regulated separately under the provisions of Part III of the 1990 Act.

### **Appeals**

An Appeal can be made against the conditions in, or variations to this Permit as per Part IV of the Regulations. Appeals are made to the Planning Inspectorate who acts on behalf of the Secretary of State. Appeals against conditions within a Permit must be submitted within 6 months of the date of issue of the permit. Appeals against variation notices must be submitted within 2 months of the date of issue of the notice. Appeals should be despatched on the day they are dated and sent to:

The Planning Inspectorate  
Environmental Appeals Administration  
Room 4/19 – Eagle Wing  
Temple Quay House  
2 The Square  
Temple Quay  
BRISTOL  
BS1 6PN

### **HMSO Publications**

All HMSO publications can be ordered by telephone on Tel: 0870 600 5522, Fax: 0870 600 5533 or e-mail: [book.orders@tso.co.uk](mailto:book.orders@tso.co.uk)

### **Emission Monitoring Protocol**

The documented procedure by which reliable and comparable results are obtained from measurements at source is known as a Protocol.

Protocols ensure that the sampling procedures are carried out correctly and that the results obtained accurately characterise the process.

The main components of a Protocol are as follows:-

1. Calibre and quality of the sampling team.
2. A reference measurement method (standard methods may not always be available)
3. A standard methodology setting out:
  - health and safety considerations
  - pollutants of interest
  - plant operating conditions required

- selection and location of sampling position
- sampling characteristics (e.g. isokinetic etc) and techniques
- sampling frequency
- sampling duration
- number of samples
- type (including make and model), condition and suitability of sampling equipment
- required accuracy
- variability of emissions
- analytical methods including laboratory competence and NAMAS accreditation certificate copy for each pollutant of interest
- analytical precision
- procedures to be adopted if standard methods unavailable
- calibration certificate(s) for sampling equipment
- Quality Control and Quality Assurance procedures
- Presentation of results and associated information.

Plan PPC/070/A Premises Boundary of Hytech (Castings Manufacture) Ltd.



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