

Permit With Introductory Note



IPSWICH
BOROUGH COUNCIL

The Pollution Prevention and Control Act 1999
The Environmental Permitting (England and Wales) Regulations 2016
(as amended)

**Lebronze alloys UK
Hadleigh Road
Ipswich
Suffolk
IP2 0EG**

**Permit
Reference:
EP/54/06/BA**

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Chronicle

Detail	Date	Comments
Part A1 Permit EA	19.02.2004	Revoked by EA
Part A2 Permit IBC	21.03.2013	Draft
Part A2 Permit	31.01.2014	EP/54/1/LB
Part A2 Permit	February 2016	EP/54/2/DR
Part A2 Permit	November 2016	EP/54/3/DR
Part A2 Permit	September 2017	EP/54/4/BA
Part A2 Permit	January 2018	EP/54/5/BA
Part A2 Permit	July 2019	EP/54/06/BA

Permit issued by:

Environmental Protection Services
Ipswich Borough Council
Grafton House
15-17 Russell Road
Ipswich
IP1 2DE

Telephone: 01473 433115
Fax: 01473 433062
Website: www.ipswich.gov.uk
Email: environmental.health@ipswich.gov.uk

INTRODUCTORY NOTE

This introductory note does not form part of the permit

The following Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010 (S.I.2010 No. 675), hereinafter referred to as the EP Regulations, to operate a scheduled installation carrying out an activity, or activities covered by the description in section 2.2 A (2) (a) in Part 2 to Schedule 1 of the EP Regulations, to the extent authorised by the Permit.

Conditions within this Permit detail Best Available Techniques (BAT), for the management and operation of the installation, to prevent, or where that is not practicable, to reduce emissions.

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

In determining BAT, the Operator should pay particular attention to relevant sections of the Secretary of State's Guidance for A2 Activities in the Non-ferrous Metals Sector – Sector Guidance Note IPPC SG4, and any other relevant guidance. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Note that the Permit requires the submission of certain information to Ipswich Borough Council, hereinafter referred to as the Regulator, and in addition, the Regulator has the power to seek further information at any time under Regulation 60 of the EP Regulations provided that the request is reasonable.

Public Registers

Information relating to Permits, including the application, is available on public registers in accordance with the EP Regulations. Certain information may be withheld from the public registers where it is commercially confidential, or if it is in the interest of national security to do so.

Variations to the Permit

The Regulator may vary the permit in the future, by serving a variation notice on the Operator. Should the Operator want any of the conditions of the Permit to be changed, a formal application must be submitted to the Regulator (the relevant forms are available from the Regulator). The Status Log that forms part of this introductory note will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Transfer of the Permit or Part of the Permit

Before the Permit can be wholly or partially transferred to another Operator, an application to transfer the Permit has to be made jointly by the existing and proposed Operators. A transfer will not be approved if the Regulator is not satisfied that the proposed Permit holder will be the person having control over the operation of the installation, or will not comply with the conditions of the transferred Permit. In addition, if the Permit authorises the Operator to carry out a specified waste management activity, the transfer will not be approved if the Regulator does not consider the proposed Permit holder to be a 'fit and proper person' as required by the EP Regulations.

Surrender of the Permit

Where an Operator intends to cease the operation of an installation (in whole or in part) the Regulator should be informed in writing. Such notification must include the information specified in Regulation 24(3) of the EP Regulations.

Responsibility under Workplace Health and Safety Legislation

The permit is given in relation to the requirements of the EP Regulations. It must not be taken to replace any responsibilities an Operator may have under the workplace health and safety legislation.

Appeal Against Permit Conditions

Any person who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for Environment, Food & Rural Affairs. Appeals must be received by the Secretary of State no later than 6 months from the date of the decision (the date of the Permit).

Appeals relating to installations in England should be received by the Secretary of State for Environment, Food & Rural Affairs. The address is as follows:

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

The appeal must be in the form of a written notice or letter stating that the person wishes to appeal and listing the condition(s) which is/are being appealed against. The following five items must be included:

- (a) A statement of the grounds of appeal;
- (b) A copy of any relevant application;
- (c) A copy of any relevant Permit;
- (d) A copy of any relevant correspondence between the person making the appeal and the Council;
- (e) A statement indicating whether the appellant wishes the appeal to be dealt with.
 - by a hearing attended by both parties and conducted by an inspector appointed by the Secretary of State; or
 - by both parties sending the Secretary of State written statements of their case (and having the opportunity to comment upon one another's statements).

At the same time, the notice of appeal and documents (a) and (e) must be sent to the Council, and the person making the appeal should inform the appropriate Secretary of State that this had been done.

- An appeal will not suspend the effect of the conditions appealed against; the conditions must still be complied with.

- In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the other conditions not subject to the appeal and to direct the local authority to either vary any of these conditions or to add new conditions.

Copyright of any maps if provided with this Permit

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Talking to us

Please quote the Permit Number if you contact the Regulator about this Permit. To give a notification the Operator should telephone 01473 433115 or any other number notified in writing by the Regulator for that purpose.

End of Introductory Note

**IPSWICH BOROUGH COUNCIL
POLLUTION PREVENTION AND CONTROL ACT 1999
Environmental Permitting (England and Wales) Regulations
2016 (as amended)**

Permit Reference: EP/54/06/BA

Name and address of person (A) authorised to operate the installation ('the operator')

Lebronze alloys UK, Hadleigh Road, Ipswich, Suffolk, IP2 0BX

Registered number and office of company

Lebronze alloys UK, Hadleigh Road, Ipswich, Suffolk, IP2 0BX
Company no. 05832146

Address of permitted installation (B)

Lebronze alloys UK, Hadleigh Road, Ipswich, Suffolk, IP2 0BX

Signature:



Date: Thursday 11th July 2019

Ben Atkinson

Public Protection Officer

The Authorised Officer for this purpose

Permit issued by:

Environmental Health
Floor 3W
Ipswich Borough Council
Grafton House
15-17 Russell Road
Ipswich
IP1 2DE

Telephone: 01473 433115
Fax: 01473 433062
Website: www.ipswich.gov.uk
Email: environmental.health@ipswich.gov.uk

OPERATING CONDITIONS

Process Description

The process involves the melting of copper with other metals at high temperature to form a number of metallic mixtures or alloys including bronzes (alloys of copper and tin) and brasses (alloys of copper and zinc). Other metals are also used to produce alloys including; aluminium, lead, manganese and nickel. The mixture of metals and the manufacturing process used will impart specific properties to the finished products that may include high strength or corrosion resistance.

The raw materials required for manufacturing copper alloys are supplied as new metals and high grade scrap. Fluxing agents are added to aid alloying. The raw materials are purchased in line with quality specifications and delivered to the site from a variety of suppliers. On arrival, the materials are checked visually and if required by analyser to ensure they match the required specification. Materials that fail initial inspection are returned to the supplier. All raw materials for manufacturing are stored under cover in concrete floored buildings.

There are two foundry areas on the site:

- BF35 for semi-continuous and static casting of copper based alloys
- HW39 & P145 for aluminium bronzes.

The melting units consist of ten electric melting furnaces, two gas melting furnaces and two gas/air semicon casters.

The fumes and particulates from the melting raw materials and combustion gases are exhausted through one main and two smaller stacks. The main stack is 36.6m high and exhausts gases from three of the foundry areas with an estimated flow rate of 84,600 normal cubic metres per hour. The other two stacks are 12.8m high and exhaust individual induction furnaces in one of the aluminium bronze foundries.

Emission point reference	Height	Source	Substance emitted
A1 – Main chimney	36.6m	Melting furnace/ovens in areas BF35, HW39, P145+ Brass Foundry.	Particulate matter
			Lead
			Nickel
			Fluoride (as HF)
			Cobalt
			Chromium
A8 – Ball mill	10.97m	Ball mill process air bag filter exhaust	Particulate matter
A9 – Ball mill	10.97m	Ball mill process air bag filter exhaust	Particulate matter

The molten metal from all furnaces is either cast directly into moulds or indirectly via holding furnaces and dies to produce rod and hollow sections of billets.

Mains water is softened and treated with a biocide and corrosion inhibitor, for use in a close circuit cooling system for various induction furnace coils, static moulds and

one of the four semi-continuous casting machines. The evaporative water cooling system is chlorinated twice a year to prevent legionella and then neutralised prior to discharge to the sewer. Water from a borehole on site is used on a once through basis to cool three semi-continuous casting machines. The water is then discharged directly via an outfall into the River Orwell.

Metallic dross, spillage and skimming from the foundry operations are recovered using a ball mill. The mill has a bag filter vented to atmosphere via a 10.97m stack. The metals are returned to the foundry and the collected filter fines are sold for recovery. Dust levels around the bag plant are minimised by the use of an additional bag filter plant that is also vented to air within the annex to the main ball mill building.

Cast products may be subjected to a series of forming and finishing operations. These operations include forging, rolling, machining, extruding, drawing, water quenching and heat treatment. Solid wastage is returned to the foundry for recycling. Cooling water from forming and extrusion is discharged directly via the outfall into the River Orwell.

Pickling operations, using 10% sulphuric acid are carried out to remove oxide scale from the surface of extruded, rolled and drawn products. The pickling solution is cleaned and re-used. When it becomes spent it is sent off-site for disposal.

Conditions

Delivery, storage and handling of raw materials

1. Stocks of dusty or potentially dusty materials shall be stored in such a manner as to minimise emissions to air.
2. All dusty materials shall be stored in covered containers, purpose-built silos, sealed bags or undercover whenever practicable.
3. Transport and handling of dusty materials shall be carried out so as to prevent or minimise airborne particulate matter emissions.
4. A high standard of housekeeping shall be maintained. All spillages shall be cleared as soon as possible. Dry sweeping of dusty spillages shall not be permitted in circumstances where it may result in the generation of airborne dust outside any building.
5. Storage areas shall be under cover and protected from the elements where appropriate to avoid or minimise environmental impact.
6. Storage areas shall be hard surfaced, unless damage to the surface is likely to occur during delivery.
7. Material sampling shall be used to identify raw material quality.

Furnace operations

8. Operators shall identify, document and maintain procedures for optimal melting and charging practices to ensure that metal is produced in the most energy efficient manner and whilst maintaining the required product quality.

9. New and rebuilt furnaces with charge doors shall be fitted with sealed charging systems where secondary scrap or flux is being used.
10. Operators shall investigate the potential for fitting lids or covers to open crucible furnaces, transfer ladles and holding furnaces in order to minimise heat loss.
11. For combustion gases, O₂ and CO, and the temperature of the melt shall be measured to allow process control. Alarms shall be provided.
12. Feed shall be weighed, metered and recorded.
13. Operators shall ensure that melt temperature is controlled for the desired casting temperature to avoid excessive heating.

Casting and cooling

14. Emissions from casting and cooling shall be contained and abated, where necessary, to meet the emission limits stated in table 1.

Forming and finishing

15. Where continuous casting and rolling is carried out, machine lubricants from rolling operations shall be recycled in a closed-loop system using filtration if required to maintain material specifications.

Releases to air

16. The operator shall ensure that all operations which generate emissions to air are contained and adequately extracted to suitable abatement plant where this is necessary to meet specified emission limits.
17. The operator shall ensure that an effective means of detection for abatement plant failure is in use.
18. The operator shall ensure that emissions from combustion processes in normal operation are free from visible smoke and in any case do not exceed the equivalent of Ringelmann Shade 1 as described in BS2742:1969.
19. The operator shall investigate the cause and nature of any persistent visible emissions and provide a report to the regulator detailing the measures taken or to be taken to address the cause.
20. The operator shall ensure that emissions of water vapour are free from droplet fallout.
21. The operator shall ensure that flues and ductwork are cleaned to prevent accumulation of materials as part of a routine maintenance programme.
22. The operator shall ensure that exhaust gases discharged through a stack achieve an exit velocity greater than 15m/s during normal operating conditions to achieve adequate dispersion.

23. The operator shall ensure that stacks are not fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone which may be necessary to increase the velocity of the emissions.

Fugitive emissions to air

24. Operations such as handling and transfer of molten metal or dusty materials, metal treatment, casting, finishing and handling of odorous raw materials shall be controlled to minimise fugitive emissions.
25. Operations shall be controlled to prevent visible emissions with the exception of one-off events during start-up and shutdown.
26. External surfaces of the process buildings, roofs, guttering, ancillary plant, roadways and open yards and storage areas shall be inspected at least annually. Cleaning operations shall be carried out if necessary to prevent the accumulation of dusty material using methods which minimise emissions of particulate matter to air.

Fugitive emissions to surface water, sewer and groundwater

27. The operator shall have a clear diagrammatic record of the routing of all installation drains, subsurface pipework, sumps and storage vessels including the type and location of the receiving environment.
28. The operator shall ensure that all operational and storage areas are equipped with an impervious surface, spill containment kerbs, sealed construction joints, and connected to a sealed drainage system.
29. Oil and solid interceptors shall be used if necessary for the drainage of open storage areas.
30. All sumps shall be impermeable and resistant to stored materials.
31. All liquid storage tanks shall be located within bunds that are designed, constructed and located to appropriate standards and ensuring that the volume is more than 110% of the largest tank.
32. Storage tanks shall be fitted with high-level alarms or volume indicators to warn of overfilling. The filling system shall be interlocked to the alarm system to prevent overfilling where practicable. Delivery connectors shall be located within a bunded area, fixed and locked when not in use.
33. All tank bunds and sumps shall be subject to regular visual inspection and the contents pumped out or removed.

Point source emissions to groundwater

34. There shall be no intentional point source emissions of List I and List II substances to groundwater.

Monitoring

35. The operator shall monitor emissions, make tests and inspections of the process and keep records, including visual assessments, for at least 2 years.

36. The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator shall state the provisional time and date of monitoring, pollutants to be tested and methods to be used.
37. The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of the completion of sampling.
38. All results submitted to the regulator shall include details of process conditions at the time of monitoring, monitoring uncertainty as well as any deviations from the procedural requirements of standard reference methods and the error invoked from such deviations.
39. Results exceeding the emission limit value from any monitoring activity and malfunction or breakdown leading to abnormal emissions shall be investigated and corrective action taken immediately. The operator shall ensure that the regulator is notified without delay identifying the cause and corrective action taken. Where there is immediate danger to human health, operation of the activity shall be suspended.
40. Sampling points on new plants shall be designed to comply with CEN or other standards e.g. BS EN 13284-1 or BS ISO 9096:2003 for sampling particulate matter in stacks.
41. Where continuous monitoring is required by this Permit, such equipment shall be fitted with audible and visual alarms to warn the operator of arrestment plant malfunction or failure. The activation of alarms shall be automatically recorded and readings shall be on display to appropriately trained operating staff.
42. All continuous monitors shall be operated, maintained and calibrated in accordance with the appropriate standards and manufacturer's instructions. Instruments shall be operated to ensure less than 5% downtime over any 3-month period and all relevant maintenance and calibration shall be recorded.
43. Operators shall use monitoring equipment and instruments certified to MCERTS and shall use a stack-testing organisation accredited to MCERTS standards.
44. The operator shall ensure that an effective means of abatement plant failure is in use.

Monitoring and reporting of emissions to air

45. The compliance requirements for emissions to air shall be as per table 1.

BAT

46. The operator shall submit to the regulator a review of BAT in relation to emission reductions. The review shall be undertaken every 12 months.
47. Exhaust flow rates of wastes gases shall be consistent with the efficient capture of emissions, good operating practice and meeting the requirements of the legislation relating to the workplace environment.
48. The introduction of dilution air to achieve emission concentration limits shall not be permitted.

49. Dilution air may be added where justified for waste gas cooling or improved dispersion. In such cases, monitoring shall be carried out upstream of the dilution air input or procedures designed to correct for the ratio of input air as agreed with the regulator.
50. Monitoring to determine compliance with emission limit values shall be corrected to the following standard reference conditions: temperature, 213.15K (0°C), pressures 101.3kPa (1 atmosphere) and, measured wet, no correction for water vapour.
51. Periodic visual assessment of releases shall be undertaken as required by the regulator to ensure that all final releases are colourless, odourless, free from persistent visible emissions and free from droplets.
52. Frequency of monitoring for all pollutants (including particulate matter) where arrestment plant is necessary to meet specified emission limits shall be at least annually.
53. Where abatement equipment is required to comply with the particulate matter provisions of this permit, then the particulate matter emissions shall be continuously monitored to indicate the performance of the abatement plant. Where airflow is less than 150m³ per minute, surrogate parameters as an alternative to continuous monitoring may be considered where the operator can demonstrate equivalent control to the satisfaction of the regulator.

Monitoring and reporting emissions to water and sewer

54. The operator shall comply with the Environment Agency's Environmental Permit for discharges to water.
55. The operator shall comply with Anglian Water's Trade Effluent Discharge Consent for discharges to sewer.

Water use

56. The operator shall carry out a water efficiency audit every 2 years and put in place the recommendations of the audit.
57. The operator shall ensure that incoming water use is directly measured and recorded, including cooling water top-up.

Raw materials

58. The operator shall have procedures in place to control the specification of raw materials with the potential to cause environmental impact.
59. The operator shall carry out an environmental audit of the raw materials used annually to determine whether suitable alternatives less likely to be detrimental to the environment are available.

Waste minimisation

60. The operator shall carry out a waste minimisation audit (including recovery and reuse of wastes) every 2 years, investigate potential markets for the recovery/reuse of wastes that are currently disposed to landfill and put in place the recommendations of the audit.

Waste handling

61. Operators shall ensure that waste storage areas are clearly marked and signed, waste containers shall be sealed, as appropriate, and banded if the wastes are liquid.
62. The operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination and the removal date of any waste that is produced on site.
63. Operators shall ensure that waste is stored in containers that are durable for the substances stored and that incompatible waste types are kept separate.
64. All containers, including emptied containers, for dross, slag, swarf and packaging materials shall be stored under cover or in sealed containers with lids secured and in place. Liquid wastes shall be stored in sealed containers in banded areas. Operators shall ensure that procedures are in place to deal with damaged or leaking containers.

Energy

65. The operator shall produce a report annually on the energy consumption of the installation.
66. The operator shall maintain and update annually an energy management system which shall include the monitoring of energy flows and target areas for reduction.
67. The operator shall ensure that all plant is operated and maintained to minimise the loss of energy.
68. The operator shall employ and maintain containment methods (e.g. seals, self-closing doors etc.) to minimise energy loss.

Odour

69. Where operations result in offensive odour at or beyond the site boundary, operators shall devise an odour management plan to resolve the issue.
70. The operator shall restrict odorous activities and use odour abatement systems where necessary.

Accidents and Incidents

71. The operator shall maintain an accident management plan and contain procedures for investigating incidents, near misses, including identifying suitable corrective action and follow-up.
72. In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the Operator shall:
 - (i) Investigate and undertake remedial action immediately,
 - (ii) Adjust the process or activity to minimise those emissions; and
 - (iii) Promptly record the events and actions taken,

using the form in Schedule 1 of this permit.

73. Ipswich Borough Council shall be informed without delay:
- (i) If there is an emission that is likely to have an effect on the local community; or
 - (ii) in the event of the failure of key arrestment plant, the local authority shall be informed using the form in Schedule 1 of this permit.
74. The operator shall maintain procedures for the control of spills and firewater to ensure containment and disposal of liquids in order to prevent or minimise pollution.
75. There shall be procedures for incidents and near misses which may affect the environment, including identifying suitable corrective action and follow-up.
76. Operators shall use safe systems for the handling of storage of dust in order to minimise the risk of fire and explosion.

Noise and vibration

77. The operator shall identify key plant, equipment or operations with the potential to give rise to significant noise and take such measures as are necessary to minimise the noise.
78. Scrap handling systems shall be designed to avoid double handling and to minimise the drop height for deliveries and charging operations.

Management

79. Operators shall use an effective Environmental Management System with policies and procedures for environmental compliance and improvements. Audits shall be carried out against those procedures at regular intervals.
80. All critical plant and equipment which could lead to adverse environmental impact upon failure shall be maintained in good operating condition.
81. A maintenance programme and evidence of such maintenance shall be recorded by the operator for all critical plant and equipment.
82. The operator shall provide warning systems to indicate equipment malfunction or breakdown for all critical plant and equipment.
83. Warning systems shall be maintained and checked regularly in accordance with manufacturer's recommendations.
84. Essential spares and consumables for critical plant and equipment shall be held on site or be available at short notice from suppliers so that plant breakdown can be rectified rapidly.
85. Records of breakdowns shall be analysed by the operator in order to eliminate common failure modes.
86. A copy of this permit shall be available at all times for reference by all staff carrying out work subject to the requirements of this Permit.

87. All staff including contractors shall be fully conversant with permit conditions relevant to their duties and shall be provided with training and operating instructions to enable them to carry out their duties.
88. The operator shall keep records staff training.

Table 1: Emission limit values for emissions to air.

Row	Substance	Source	Emission limit	Type of monitoring	Frequency of monitoring
1	Total particulate matter	All furnace operations – charging, fluxing, melting and pouring.	20mg/m ³	Continuously recorded indicative monitoring AND extractive monitoring using BS EN 13284-1.	Continuous and once a year extractive.
2	Total particulate matter	Knock-out and other finishing operations.	20mg/m ³	Continuously recorded indicative monitoring AND extractive monitoring using BS EN 13284-1.	Continuous and once a year extractive.
4	Chloride/Fluoride (expressed as hydrogen chloride/fluoride)	Fluxing	5mg/m ³	Manual extractive testing.	Annually.
5	Lead	Where appropriate in relation to the metal alloy being melted. Certain alloys give rise to negligible particulate emissions as they do not contain zinc or lead and extraction and monitoring is not applicable to processes melting these alloys. If other alloys make up more than 2% of the total melted in any twelve month period then the limits should apply.	2mg/m ³	Manual extractive testing BS EN 13211.	Annually.
	Tin		5mg/m ³		
	Copper		20mg/m ³		
	Nickel		5mg/m ³		
	Cobalt, Chromium, Cadmium		Total emission = 1mg/m ³		
6	Dioxins	Processes likely to emit dioxins.	1ng/m ³ (I-TEQ)	Manual extractive testing BS EN 1948:1997 Parts 1, 2 and 3.	Annually.



Schedule 1 – Notification of abnormal emissions for a Part A (2) Permit

The Pollution Prevention and Control Act 1999
Environmental Permitting (England and Wales) Regulations 2010

Operator	Lebronze alloys UK, Hadleigh Rd, Ipswich, IP2 0EG
Permit Reference	
Name of authorised person	
Post	
Signature	
Date	

Time of emission	
Date of emission	
Substance/s emitted	
Point/s of emission	
Was substance discharged to air, water, land, sewer?	
Best estimate of the quantity or the rate of emission	
Duration of emission.	
Measures taken or intended to be taken to stop emission	
Measures taken or intended to be taken to prevent a recurrence of the emission	
Measures taken or intended to be taken to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	

Location Plan – Lebronze alloys UK



Site Plan – Lebronze Alloys UK

