



**Cyfoeth
Naturiol
Cymru**
**Natural
Resources
Wales**

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Knauf Insulation Limited

Pont y Felin
Cwmbran
Torfaen
NP44 2YQ

Permit number
EPR/BR8212IK

Pont y Felin Insulation Works

Permit number EPR/BR8212IK

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant BAT conclusions as described in the Commission Implementing Decision. The glass manufacture BAT conclusions were published on 8th March 2012 in the Official Journal of the European Union following a European Union wide review of BAT.

This variation incorporates the changes required by the Industrial Emissions Directive following a statutory review of permits in the glass and mineral fibre sector. This includes the amendment of the wording of several permit conditions relating to notifications and also includes the addition of a condition relating to a requirement for monitoring of groundwater and soil. At the same time the permit has been converted into the current EPR Permit format.

Description of the Installation

The installation at Pont-y-Felin near Cwmbran is operated by Knauf Insulation Ltd. The process involves the manufacture of glass fibre - light and heavy density glass mineral wool rolls and batts and loose fibre products which are produced for use as thermal and acoustic insulation material. This falls under Section 3.4 Part A(1)(a) of The Environmental Permitting Regulations (2013 amendment).

The product range varies from rolls and batts of 40mm to 275mm nominal thickness, although additional sizes may be produced subject to the customers requirements. The site also produces loose fibre products and is capable of producing a variety of thermal insulation products on a single main production line. The process produces glass mineral wool (MMVF) product in a multi stage process; batch mixing, glass melting, fiberizing, forming, curing, cooling and packaging.

The first stage involves melting glass, made from batch materials (sand, soda ash, dolomite, limestone, recycled dust from the Dry Electrostatic Precipitator and minerals containing boron and aluminium together with internal and external cullet) in a furnace and then processing the molten glass fibres. External cullet is processed glass recycled from various sources including bottles, automotive glass and domestic glass. Batch materials and recycled cullet are delivered by road tanker and pneumatically transferred to storage silo(s). The batch materials are blended with the internal cullet in the furnace building. The dust arising from materials handling is minimised by extraction and filtering systems on each silo.

The blended materials are transferred to the oxy-fuel fired furnace with electric boost which is supplied with natural gas and oxygen from the VSA generation plant

outside the facility. A stream of molten glass flows into the 13 fiberising units where it is fiberised in specially designed rotary centrifuge spinners that produce fine glass fibres.

Except for loose fibre products, binder is applied to the fibres prior to a forming process which gives a glass mineral wool mat. When roll or batt insulation is being made, the mineral wool is shaped as it is heated in a seven zone curing oven at around 300 °C which sets the binder.

After curing, the products are cooled then trimmed to the final dimensions and then packaged ready for despatch.

The loose fibre product is sprayed with a silicone based emulsion to improve its properties, before being blown via ductwork into the dedicated building. The fibre is then formed into a mat and chopped into shorter fibres. The product is then blown to a packing area, where the extracted air is abated through bag filters. Mineral oil and anti static materials may be used in this section to improve the properties of the fibre.

Emissions to atmosphere may arise during each stage of the process. Emissions from the melting stage result from the products of combustion and particulates generated in the glass furnace. Waste gas flows from the furnace are passed through a Dry Electrostatic Precipitator prior to being emitted to atmosphere via a 70m stack. In the event of a failure of the Dry Electrostatic Precipitator an emergency bypass stack is used.

Emissions from the downstream forming, curing and cooling stages, consists of particulates and volatile organic materials used in the binder. These gas streams are passed through multi stage abatement systems (a series of cyclones and impact jet scrubbers) before being emitted to atmosphere via either a 85m or 50m stack, depending on the production line.

Edge trimming waste is either recirculated back into the product or collected with any off quality product and is shredded, compacted into a bale and recycled off site by third parties.

Water is used on site for a number of purposes including fire, domestic and production processes. The water used during production is part of a recycled wash water system. Water is lost from this system by application on the product as part of the binder and through evaporation. Wash water is also used as part of the multi stage abatement systems. The system is topped up using rain water and mains water.

The installation runs parallel to the Afon Lwyd river, which is close to the site boundary and there can be a discharge of site surface water into this river, via interceptors through a sump. In addition there is an effluent discharge to sewer for final treatment at an urban wastewater treatment works.

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

Status log of the permit

Description	Date	Comments
Application BR8212	Received 16/07/02	
Additional Information Request	23/08/02	Response received 20/09/02
Additional Information Request	08/10/02	Response received 21/11/02
Additional Information Request	16/12/02	Response dated 09/04/03
Determination Extension request	10/04/03	Request by The Environment Agency to extend determination to 30 May 2003. Response dated 14/04/03
Permit BR8212 determined	30/05/03	Permit issued
Application MP3038MP	19/10/06	
Additional Information Request	06/12/06	Response dated 19/12/06
Additional Information Request	29/12/06	Response dated 12/01/07
Additional Information Request	16/01/07	Response dated 18/01/07
Variation notice MP3038MP determined	20/02/07	Variation issued
Application EPR/BR8212IK/V003	Duly made 06/04/09	
Additional information Request	28/04/2009	
Variation EPR/BR8212IK/V003 determined	23/09/2009	Variation issued
Regulation 60(1) Notice of request for more information	27/02/14	
Regulation 60(1) response received	30/05/14	Implementation of BAT conclusions under IED
Natural Resources Wales Glass Sector Review 2014 Permit EPR/BR8212IK Variation issued EPR/BR8212IK/V004	31/07/15	Varied and consolidated permit issued in modern IED condition format.

End of introductory note.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/BR8212IK

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BR8212IK/V004 authorising,

Knauf Insulation Limited ("the operator")

whose registered office is:


**PO Box 10
Stafford Road
St Helens
Merseyside
WA10 3NS**

company registration number **01926842**

to operate an installation at:

**Pont – Y – Felin
Cwmbran
Torfaen
NP44 2YQ**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
	31 July 2015

Eirian Macdonald

Authorised on behalf of Natural Resources Wales

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

- 2.3.3 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2 ; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.
- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 The Operator shall carry out monitoring of groundwater at least once every 5 years; and of soil at least once every 10 years; to the protocol agreed in writing with Natural Resources Wales under IC1 (table S1.3).

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:

- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Monitoring

- 3.3.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1 and S3.2 ;
- 3.3.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.3.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by Natural Resources Wales.
- 3.3.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1; the Continuous Emission Monitors shall be used such that
 - (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages:

Nitrogen dioxide	20%
Total dust	30%
 - (b) valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.3.5(a);
 - (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. The number of half-hourly averages so validated shall not exceed 5 per day;

- (d) daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly average values in any day have been determined not to be valid;
- (e) no more than ten daily average values per year shall be determined not to be valid.

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.4.2 The operator shall:
 - (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.5 Noise and vibration

- 3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.5.2 The operator shall:
 - (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (i) inform Natural Resources Wales,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
- (i) inform Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) Natural Resources Wales shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity and waste types
Section 3.3 Part A(1)(a)	Manufacturing glass fibre with a melting capacity exceeding 20 tonnes per day.	From receipt of raw materials, storage and materials handling to processing of product and packaging.
	R5: Recycling/reclamation of other inorganic materials	Wastes as specified in Table S2.1
	R13: Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced.	
Directly Associated Activity		
VSA Generation Plant		Provides Oxygen for the oxy-gas fuel fired furnace
Waste handling and storage	Handling and storage of various solid and liquid wastes from the process	From receipt of raw materials to emission of exhaust gas and disposal of waste arising.
Water discharged to foul sewer	Discharges of process waste from installation	
Water discharge to controlled water	Discharges of site drainage from the installation	
Producing mineral fibre and associated products (Downstream processing)	Producing mineral fibre from the melted minerals and subsequent conversion, drying, finishing and associated abatement of releases to air and sewer	
	Emissions – control of gases from furnace, curing ovens and forming gases by a Dry Electrostatic Precipitator and multistage abatement systems	

Table S1.2 Operating techniques

Description	Parts	Date Received
Application for permit BR8212	The response to sections 2.1, 2.2 and 2.3 of the application	16/07/02
1 st Schedule 4 part 1 notice	The response to question 8	20/09/02
2 nd Schedule 4 part 1 notice	The response to questions 1-4, 7, 8, 11, 13, 14, 17-20	
Application for variation MP3038MP	The response to sections 4.1.3, 4.1.4, 4.1.9-4.1.17	19/10/06
Application for variation EPR/BR2121IK/V003	The response to section 2	06/04/09
Information received in support of Natural Resources Wales Glass Sector Permit Review 2014	All parts of operator response to Regulation 60 (1) notice	30/05/14

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1	The Operator shall submit the written protocol referenced in condition 3.1.3 for the monitoring of soil and groundwater for approval by Natural Resources Wales. The protocol shall demonstrate how the Operator will meet the requirements of Articles 14(1)(b), 14(1)(e) and 16(2) of the IED. The procedure shall be implemented in accordance with the written approval from Natural Resources Wales.	31/12/15
IC2	The Operator shall submit a report on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED. The report shall contain information, supplementary to that already provided in the application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.	07/03/16
IC3	BAT AEL's only apply during normal operating conditions, therefore, the operator shall submit a written report defining the parameters of normal operating conditions for each plant item for which BAT-AEL's apply for approval by Natural Resources Wales.	6 months from issue date of variation
IC4	For some paramaters the BAT ELV for curing ovens and cooling zones differ. As emissions from these are released through a common emission point (A3) , the Operator shall measure the volumetric flow of emissions to air from: (1) the Curing Ovens; and (2) the Cooling Zone. A report shall be submitted to Natural Resources Wales detailing the relative proportion of volumetric flow through emission point A3 that originates in each of these areas.	31/01/16

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Permitted waste types and quantities for the installation	
Waste code	Description
10	WASTES FROM THERMAL PROCESSES
10 11	wastes from manufacture of glass and glass products
10 11 12	waste glass other than those mentioned in 10 11 11
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 07	glass packaging
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 05	glass
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 02	glass

Schedule 3(a) – Emissions and monitoring

Emissions until 7th March 2016

Table S3.1 Point source emissions to air – emission limits and monitoring requirements until 07/03/2016						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A0 as shown on site plan in Schedule 7	Particulate matter	White wool stack, post abatement.	35 mg/Nm ³	Extractive sample	6 monthly in triplicate	BS EN 13284-1
A1 as shown on site plan in Schedule 7	Particulate matter	Release from furnace, post electrostatic precipitator	20 mg/Nm ³	Continuous	Daily average	BS EN 13284-1
A1 as shown on site plan in Schedule 7	Particulate matter	Release from furnace, post electrostatic precipitator	30 mg/Nm ³	Continuous	Half hour maximum	BS EN 13284-1
A1 as shown on site plan in Schedule 7	Particulate matter	Release from furnace, post electrostatic precipitator	30 mg/Nm ³	Extractive sample	6 monthly in triplicate	BS EN 13284-1
A1 as shown on site plan in Schedule 7	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Release from furnace, post electrostatic precipitator	300 mg/Nm ³	Daily average	Continuous	BS EN 15267 Note 1
A1 as shown on site plan in Schedule 7	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Release from furnace, post electrostatic precipitator	450 mg/Nm ³	Half hour maximum	Continuous	BS EN 15267 Note 1
A1 as shown on site plan in Schedule 7	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Release from furnace, post electrostatic precipitator	300 mg/Nm ³	Extractive sample	6 monthly	BS EN 14792
A1 as shown on site plan in Schedule 7	Carbon monoxide	Release from furnace, post electrostatic precipitator	200 mg/Nm ³	Extractive sample	6 monthly	BS EN 15058
A1 as shown on site plan in Schedule 7	Oxides of sulphur (as SO ₂)	Release from furnace, post electrostatic precipitator	150 mg/Nm ³	Extractive sample	6 monthly	BS EN14791
A1 as shown on site plan in Schedule 7	Gaseous fluorides (as HF)	Release from furnace, post electrostatic precipitator	5 mg/Nm ³	Extractive sample	6 monthly	BS ISO 15713
A1 as shown on site plan in Schedule 7	Gaseous Chlorides (as HCl)	Release from furnace, post electrostatic precipitator	20 mg/Nm ³	Extractive sample	6 monthly	BS EN1911

A2 as shown on site plan in Schedule 7	-	Release from bypass stack	-	-	-	-
A3 as shown on site plan in Schedule 7	Particulate matter	Release from forming & curing ovens and cooling zone	35 mg/Nm ³	Extractive sample	6 monthly	BS EN 13284-1
A3 as shown on site plan in Schedule 7	Phenol	Release from forming & curing ovens and cooling zone	10 mg/Nm ³	Extractive sample	6 monthly or as agreed in writing with Natural Resources Wales	BS EN 13649
A3 as shown on site plan in Schedule 7	Formaldehyde	Release from forming & curing ovens and cooling zone	5 mg/Nm ³	Extractive sample	6 monthly or as agreed in writing with Natural Resources Wales	BS EN 13649
A3 as shown on site plan in Schedule 7	Ammonia	Release from forming & curing ovens and cooling zone	50 mg/Nm ³	Extractive sample	6 monthly	BS EN 14791
A3 as shown on site plan in Schedule 7	Volatile organic compounds	Release from forming & curing ovens and cooling zone	35 mg/Nm ³	Extractive sample	6 monthly	BS EN 12619
A4 as shown on site plan in Schedule 7	Particulate matter	Release from batch plant	30 mg/Nm ³	Extractive sample	6 monthly	BS EN 13284-1
A5 as shown on site plan in Schedule 7	-	Wash water plant roof vent	-	-	-	-
A6 as shown on site plan in Schedule 7	-	Production hall roof vent	-	-	-	-
A7 as shown on site plan in Schedule 7	-	Fan house roof vent	-	-	-	-
A8 as shown on site plan in Schedule 7	-	Ammonia header tank vent	-	-	-	-
A9 as shown on site plan in Schedule 7	-	Binder plant vent	-	-	-	-
A10	Emission point removed on site					
A11	Emission point removed on site					
A12 as shown on site plan in Schedule 7	-	Gas metering building	-	-	-	-
A13 as shown on site plan in Schedule 7	-	Gas oil storage	-	-	-	-
A17 as shown on site plan in Schedule 7	-	Emergency diesel generator	-	-	-	-
A18 as shown on site plan in Schedule 7	-	Standby diesel pump (furnace cooling water)	-	-	-	-
A19	Emission point removed on site					

A20 as shown on site plan in Schedule 7	-	Standby diesel pump (cullet cooling water)	-	-	-	-
A21 as shown on site plan in Schedule 7	-	Binder scrubber vent	-	-	-	-
A22 as shown on site plan in Schedule 7	-	Vent from packaging area via bag filters	-	-	-	-
A23 as shown on site plan in Schedule 7	-	Emergency diesel generator (furnace cooling fans)	-	-	-	-
A24 as shown on site plan in Schedule 7	-	Sprinkler pump house	-	-	-	-

Note 1: CEMs which meet the MCERTS requirements will also meet the requirements of BS EN 14181

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	COD	Surface water via site interceptor	120 mg/l	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	Total suspended solids	Surface water via site interceptor	30 mg/l	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	Total Hydrocarbon oil	Surface water via site interceptor	20 mg/l	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	pH max	Surface water via site interceptor	9	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	pH min	Surface water via site interceptor	6	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales

Schedule 3(b) – Emissions and monitoring

Emissions from 8th March 2016

Table S3.1 Point source emissions to air – emission limits and monitoring requirements from 08/03/2016						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A0 [Point A0 on drawing no. H16015, revision D]	Particulate matter	White wool stack, post abatement.	35 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 13284-1
A1 [Point A1 on drawing no. H16015, revision D]	Particulate matter	Release from furnace, post electrostatic precipitator	20 mg/Nm ³	Daily average	Continuous	BS EN 13284-1 ^{Note 4}
A1 as shown on site plan in Schedule 7	Oxides of Nitrogen (Expressed as NO ₂)	Release from furnace, post electrostatic precipitator	300 mg/Nm ³ ^{Note 3}	Daily average	Continuous	BS EN 15267 ^{Note 4}
A1 as shown on site plan in Schedule 7	Carbon monoxide	Release from furnace, post electrostatic precipitator	100 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 15058 ^{Note 5}
A1 as shown on site plan in Schedule 7	Oxides of sulphur (as SO ₂)	Release from furnace, post electrostatic precipitator	150 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 14791
A1 as shown on site plan in Schedule 7	Hydrogen Fluoride (as HF)	Release from furnace, post electrostatic precipitator	5 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS ISO 15713 ^{Note 6}
A1 as shown on site plan in Schedule 7	Hydrogen Chloride (as HCl)	Release from furnace, post electrostatic precipitator	10 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 1911
A1 as shown on site plan in Schedule 7	Group 1 Metals ^{Note1}	Release from furnace, post electrostatic precipitator	1mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 14385
A1 as shown on site plan in Schedule 7	Group 2 Metals ^{Note2}	Release from furnace, post electrostatic precipitator	2 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 14385

A2 as shown on site plan in Schedule 7	-	Release from bypass stack	-	-	-	-
A3 as shown on site plan in Schedule 7	Particulate matter	Release from forming & curing ovens and cooling zone	35 mg/Nm ³ Note 8	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 13284-1
A3 as shown on site plan in Schedule 7	Phenol	Release from forming & curing ovens and cooling zone	10 mg/Nm ³ Note 8	Average value of three spot samples of at least 30 minutes each	6 monthly or as agreed in writing with Natural Resources Wales	BS EN 13649
A3 as shown on site plan in Schedule 7	Formaldehyde	Release from forming & curing ovens and cooling zone	5 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly or as agreed in writing with Natural Resources Wales	BS EN 13649 Note 6
A3 as shown on site plan in Schedule 7	Ammonia	Release from forming & curing ovens and cooling zone	50 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 14791 Note 6
A3 as shown on site plan in Schedule 7	Volatile organic compound as C	Release from forming & curing ovens and cooling zone	30 mg/Nm ³ Note 8	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 12619
A3 as shown on site plan in Schedule 7	Amines	Release from forming & curing ovens and cooling zone	3 mg/Nm ³ Note 8	Average value of three spot samples of at least 30 minutes each	6 monthly	FTIR Analyser TGN M22 Note 7
A4 as shown on site plan in Schedule 7	Particulate matter	Release from batch plant	30 mg/Nm ³	Average value of three spot samples of at least 30 minutes each	6 monthly	BS EN 13284-1
A5 as shown on site plan in Schedule 7	-	Wash water plant roof vent	-	-	-	-
A6 as shown on site plan in Schedule 7	-	Production hall roof vent	-	-	-	-
A7 as shown on site plan in Schedule 7	-	Fan house roof vent	-	-	-	-
A8 as shown on site plan in Schedule 7	-	Ammonia header tank vent	-	-	-	-
A9 as shown on site plan in Schedule 7	-	Binder tank vent	-	-	-	-
A10	Emission point removed on site					
A11	Emission point removed on site					

A12 as shown on site plan in Schedule 7	-	Gas metering building	-	-	-	-
A13 as shown on site plan in Schedule 7	-	Gas oil storage	-	-	-	-
A17 as shown on site plan in Schedule 7	-	Emergency diesel generator	-	-	-	-
A18 as shown on site plan in Schedule 7	-	Standby diesel pump (furnace cooling water)	-	-	-	-
A19	Emission point removed on site					
A20 as shown on site plan in Schedule 7	-	Standby diesel pump (cullet cooling water)	-	-	-	-
A21 as shown on site plan in Schedule 7	-	Binder scrubber vent	-	-	-	-
A22 as shown on site plan in Schedule 7	-	Vent from packaging area via bag filters	-	-	-	-
A23 as shown on site plan in Schedule 7	-	Emergency diesel generator (furnace cooling fans)	-	-	-	-
A24 as shown on site plan in Schedule 7	-	Sprinkler pump house	-	-	-	-

Note 1: Group 1 metals (and their compounds): Arsenic, Cobalt, Nickel, Cadmium, Selenium, Chromium _{VI}

Note 2: Group 2 metals (and their compounds): Arsenic, Cobalt, Nickel, Cadmium, Selenium, Chromium _{VI}, Antimony, Lead, Chromium_{III}, Copper, Manganese, Vanadium, Tin

Note 3: Concentrations in mg/Nm³ shall be converted to kg/tonne of melted glass using the calculation procedure described in the "Conversion from concentrations to specific mass emissions" set out in Table 2 (page 8 & 9) of the BAT Conclusions document for the manufacture of glass.

Note 4: CEMs which meet the MCERTS requirements will also meet the requirements of BS EN 14181

Note 5: If using a FTIR analyser, the operator must also use monitoring standard TGN M22 with BS EN 15058.

Note 6: If instrumental monitoring, the Operator must use standard TGN M22.

Note 7: If manual monitoring, the Operator must use BS EN 13649.

Note 8: Subject to Improvement Condition 4.

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	COD	Surface water via site interceptor	120 mg/l	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	Total suspended solids	Surface water via site interceptor	30 mg/l	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	Total Hydrocarbons	Surface water via site interceptor	15 mg/l	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	pH max	Surface water via site interceptor	9	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales
W1 (point W1 on drawing number H16015, revision D, or as approved by Natural Resources Wales)	pH min	Surface water via site interceptor	6	Spot sample	6 Monthly	As agreed in writing with by Natural Resources Wales

Schedule 4 - Reporting

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.3.1.	A0, A1, A3 & A4	Every 6 months	1 January
Emissions to water Parameters as required by condition 3.3.1.	W1	Every 6 months	1 January

Table S4.2 Performance parameters

Parameter	Frequency of assessment	Units
Mass release of oxides of sulphur	Annually	Kg SO ₂
Bypass stack usage	Annually	Hrs/yr

Table S4.3 Reporting forms

Media/parameter	Reporting format	Date of form
Air (until 7 th March 2016)	Form air 1 or other form as agreed in writing by Natural Resources Wales	31/07/15
Air (from 8 th March 2016)	Form air 2 or other form as agreed in writing by Natural Resources Wales	31/07/15
Water (until 7 th March 2016)	Form water 1 or other form as agreed in writing by Natural Resources Wales	31/07/15
Water (from 8 th March 2016)	Form water 2 or other form as agreed in writing by Natural Resources Wales	31/07/15
Performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	31/07/15
Waste	Form performance waste 1 or other form as agreed in writing by Natural Resources Wales	31/07/15

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a permit condition	
To be notified immediately	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
To be notified immediately	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

“Annex I” means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Annex II” means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Authorised officer” means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“Accident” means an accident that may result in pollution.

“Application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“Best available treatment, recovery and recycling techniques” shall have the meaning given to it in the document published jointly by the Department for Environment, Food and Rural Affairs, the Welsh Assembly Government and the Scottish Executive on 27th November 2006, entitled “Guidance on Best Available Treatment, Recovery and Recycling Techniques (BATRRT) and Treatment of Waste Electrical and Electronic Equipment (WEEE);

“Building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

“D” means a disposal operation provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“Emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit..

“Groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Groundwater protection zones 1 and 2” have the meaning given in the document titled "Groundwater Protection: Policy and Practice" published by the Environment Agency in 2006.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“R” means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

Parliament and of the Council on waste

“Year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa with no correction for oxygen.

Schedule 7 - Site plan

