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Wales

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

ROCKWOOL Limited

**Pencoed ROCKWOOL
Wern Tarw
Pencoed
Bridgend
CF35 6NY**

Permit number

EPR/BS6149IQ

Pencoed ROCKWOOL

Permit number EPR/BS6149IQ

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The “ROCKWOOL Process” is a process whereby aluminosilicate rock, together with certain added materials, is converted to a mineral wool or fibre. The fibre produced is used for thermal insulation, fire protection and acoustic applications in the building, industrial, offshore and domestic markets. The receipt, handling and storage of materials is carried out in such a manner as to minimise the emission of dust to air. Basalt, slag, coke and cement briquettes are stored within enclosed storage areas. Material transfer systems from storage bunkers to the cupolas are enclosed to minimise dust emissions. In addition, secondary emissions of dust which may arise from the handling of fines screened from raw materials before discharge to the cupolas are minimised by the use of enclosure.

There are three production lines i.e. line 1, line 2 and line 3. Each line is served by a cupola, where the raw materials are molten at temperatures of around 1500°C. The resultant melt flows out of the cupola to spinning machines. Exhaust gases from the cupola systems of Lines 1, 2, and 3 are treated by filtration utilising fabric filtration units. In addition to the fly ash filtration, Line 3 has a desulphurisation (deSO_x) system which injects sodium bicarbonate to absorb sulphur from the exhaust gases. A second filter separates the deSO_x residue for collection. Following filtration, waste gases from the cupolas are passed through afterburners to destroy carbon monoxide and hydrogen sulphide. All exhaust gases from the cupolas on lines 1, 2 and 3 are discharged to atmosphere, through release points A1, A2 and A19 respectively at a height of 75 metres above ground level. Under abnormal circumstances the waste gases can be released unabated for short periods (usually seconds, but up to a few minutes) from shorter emergency chimneys (Cupola Relief Valve), which release at 30 metres above ground level. Unabated emissions may also be released through A1, A2 and A19 when Filter Bypass is activated. Use of both Cupola Relief Valve and Filter Bypass is kept to a minimum and is designed to relieve abnormal cupola conditions.

The melt from the cupolas impinge onto high speed rotating wheels or “spinners”. Air flows through the spinners causing the melt to be drawn out into fibres. Impregnating oil and binder are further added to the fibres. The binder solutions are produced at the binder unit from ammonia liquor, phenol, formalin, urea and recycled process water. The binder production process including the storage tank farm is protected by bunding. All used process water is collected, filtered and allowed to settle at the Process Water plant before recirculation to the process. Water for use in the binder plant is further purified by filtration. The Process Water plant is protected by bunding and fitted with a high level alarm. The drawn fibre or wool is then collected in an enclosed spinning chamber by means of a collecting conveyor before accumulation by variable speed transfer conveyors. Exhausted gases from the spinning chambers on Lines 1, 2, and 3 are passed through a suitably designed filtration system to control the emission of fibres and gaseous or aerosol components. Spinning chamber emissions from Lines 1, 2 and 3 are then discharged to atmosphere through release points A3, A4 and A21 respectively, which are at the top of the 2 main (i.e. 75 metre) stacks.

The fibre/wool product is cured in an oven before being trimmed. All gases contacted with the mineral wool in the curing ovens are passed through an afterburner. Flue gases from the afterburner systems are discharged to atmosphere through vent stacks (release points A5, A6 and A22) at a height of 17 metres above ground level.

The cured fibre/wool product exiting the ovens passes through cooling zones before being trimmed. The trimmed off-cuts are recycled in the process. All cooling air which passes through the mineral wool in the cooling zones, is then passed through mesh filters on Lines 1 and 2 and through a ROCKWOOL cassette filter on Line 3. Filtered cooling air from the cooling zones is then discharged to atmosphere through vent stacks (release points A7, A8 and A23 respectively) at a height of 13 metres above ground level.

The fibre/wool product is then cut to size at the cutting section. Dust and fibres from the fibre/wool mat edge trimming and cutting sections are extracted and conveyed either to a granulation plant or dust collection system to minimise emissions to atmosphere. A cleaning system is employed to take up any material in the workplace environment. All extraction and conveying air is treated by filtration before discharge to atmosphere via three release points A9 (for dust filter), A10 (for sweep-up filter) and A11 (for the slab on-line grinder). These release points are all from stacks with the following heights: A9 and A11 are 13 metres, A10 is 10 metres above ground level. The arrested material is collected, handled and disposed by means sufficient to minimise secondary emissions of particulate material.

Some roll form product from the mainline process is utilised at four pipe section machines, where uncured raw wool is wound and moulded to a mandrel before curing, grinding, cooling and finishing. Gases from the pipe section plants are passed through filtration and afterburner systems, as appropriate before discharge to atmosphere. Emissions from "PSM56" Pipe Section plant are discharged, via a stack, at release point A12 at a height of 13 metres. Emissions from "RSMs 1 and 2" Pipe Section plants are discharged, via a stack, at release points A13a and b respectively at a height of 13 metres. Emissions from "RSM 4" Pipe Section plant are discharged, via a stack, at release point A14 at a height of 13 metres. Emissions from the pipe section grinder are filtered before being released through emission point A18 at a height of 17 metres.

Some slab form product from the mainline process is used to make a specialist fire product on the coated batt line. A special intumescent paint is applied to both sides of the slab and dried in ovens. Emission points from this process are A26a-A26l and all are 13 metres above ground level.

Recycling at the installation:

As indicated above, waste wool and wool off-cuts are recycled within the plant at the installation in Pencoed. Customers are also encouraged to return waste ROCKWOOL products (manufactured at Pencoed or at other ROCKWOOL factories) to be recycled at the site rather than sending it to landfill. The waste is milled and mixed with cement, ROCKWOOL fly ash, mineral substances and water to form "cement briquettes", which are then used in the feedstock mix for the cupolas. The cement briquettes are produced in a dedicated building on site known as the cement briquette plant. The briquettes are stored in racks in a curing hall while the cement dries. A fan can be switched on to vent the hall and emissions are released through point A25 at a height of 40 metres.

Key substances released to the receiving environment:

Releases to air from the activities at the installation include particulate material, sulphur dioxide, acid forming oxides of nitrogen, hydrogen sulphide, chlorides and fluorides from the cupolas, together with releases of particulates, phenol, ammonia, volatile organic compounds and formaldehyde from the downstream processes.

There are two discharge points for the release to surface water (Nant Ton-y-Groes tributary) from the site.

Surface water run off is collected by the site drainage and primarily sent to a settlement tank. The tank has been connected to sewer and the water is primarily discharge to sewer (point S1) and is authorised by a trade effluent consent. The discharge to surface water (Nant Ton-y-Groes tributary) from the settlement tank can occur when the tank overflows (point W1).

The second discharge (point W2) consist of uncontaminated surface water run off.

There are no direct process discharges from the Permitted Installation. There is no effluent treatment plant at the Permitted Installation.

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 BS6149	Duly made 18/07/02	
Request for additional information	23/09/02	
Additional information received	28/03/03	
Request for additional information	27/12/02	
Additional information received	28/03/03 and 21/05/03	
Permit determined BS6149	26/03/04	
Environment Agency initiated variation (LP3837SR) withdrawn	04/08/05	
Application for variation LP3637LK	Duly made 15/08/06	
Variation determined LP3637LK	20/03/07	
Application for variation MP3436UC	Duly made 18/07/07	
Operator request that SPL is removed from permit	28/02/08	
Request accepted	28/02/08	
Variation determined MP3436UC	05/03/08	
Application for variation EA/PPC/BS6149IQ/V005	Duly made 13/09/08	
Variation determined EA/PPC/BS6149IQ/V005	23/12/08	
Application for variation VP3031KW	Duly made 14/12/09	
Variation EPR/BS6149IQ/V006 issued (VP3031KW)	10/03/10	
Variation application EPR/BS6149IQ/V007	Duly made 23/12/10	
Additional information received	21/01/11	Updated Site Plan
Additional information received	31/01/11	NGR of emission point A22 and A23
Additional information received	11/02/11	Information regarding tank vents
Variation including consolidation of permit issued – EA/EPR/BS6149IQ/V007	22/03/11	
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

Status log of the permit		
Description	Date	Comments
Natural Resources Wales Glass Sector Review 2014 Permit EPR/BS6149IQ Variation issued EPR/BS6149IQ/V008	31/07/15	Varied and consolidated permit issued in modern IED condition format.
Natural Resources Wales Glass Sector Review 2014 Permit EPR/BS6149IQ Variation issued EPR/BS6149IQ/V009	01/03/2016	Permit varied to correct issues present in V008
NRW initiated variation EPR/BS6149IQ/V010	26/10/2018	Permit varied to include 2 additional Improvement Conditions
Operator initiated variation PAN-019896 (EPR/BS6149IQ/V011)	Duly Made 21/04/2023	Operator initiated variation application to add a desulphurisation plant on Cupola line 3, allow the use of waste products and to integrate updates to the permit
Variation issued EPR/BS6149IQ/V011	21/07/2023	Variation and consolidation issued to ROCKWOOL Limited

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/BS6149IQ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BS6149IQ/V011 authorising,

ROCKWOOL Limited (“the operator”),

whose registered office is
ROCKWOOL Site
Pencoed
Bridgend
Bridgend County Borough
United Kingdom
CF35 6NY

company registration number **0972252**

to operate an installation at

Pencoed ROCKWOOL
Wern Tarw
Pencoed
Bridgend
CF35 6NY

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

Signed

Date

Jennifer McGuire

21/07/2023

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.

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

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, S3.2 and S3.3
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 3 table S3.2 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

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 Odour

- 3.3.1 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.
- 3.3.2 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.

3.4 Noise and vibration

- 3.4.1 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.
- 3.4.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to 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.

3.5 Monitoring

- 3.5.1 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, S3.2 and S3.3;

- 3.5.2 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.
- 3.5.3 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.
- 3.5.4 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, S3.2 and S3.3 unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.5 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:
 - Carbon monoxide 10%
 - Sulphur dioxide 20%
 - Oxides of nitrogen (NO & NO₂ expressed as NO₂) 20%
 - Particulate matter 30%
 - Total organic carbon (TOC) 30%
 - Hydrogen chloride 40%
 - Ammonia 40%
 - (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 3.5.5;
 - (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.

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.

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 "immediately" in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
AR1	S3.4 A(1) (a)	<p>Melting mineral substances including the production of mineral fibres in plants with a melting capacity exceeding 20 tonnes per day</p> <p>Manufacture of mineral fibre on 3 production lines</p> <p>R5: Recycling / Reclamation of other inorganic materials</p> <p>R13: Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).</p>	<p>From storage and receipt of recycle products and other raw materials to storage and dispatch of the mineral fibre products</p> <p>Waste types and quantities as defined in Table S2.2</p>
Directly Associated Activity			
AR2	Products handling and recycling facilities	Product and by-product processing	From point of completion of production, or release from process as a waste, until products or wastes are exported from the installation.

Table S1.2 Operating techniques

Description	Parts	Date Received
Original permit application BS6149	The response to question 2.1 given in sections B2.2, 2.3, 2.4, 2.5 and 2.6 of the application document.	18/07/02
Additional information responses to Schedule 4 Notice	ISO 14001 – provision of a copy of Certificate of Registration. Response to questions 1 through to 6 and 8 through to 10.	28/03/03
	Response to Question 7	21/05/03
Additional information in application for substantial variation LP3637LK	“SPL Application” (N.B. Rockwool requested SPL to be removed from their permit in a letter dated 28 th February 2008. The conditions permitting the burning of SPL were removed from the permit in variation EA/PPC/BS6149IQ/V004 (MP3436UC)).	02/08/06

Table S1.2 Operating techniques

Description	Parts	Date Received
Additional information in application for substantial variation EA/PPC/BS6149IQ/V004 (MP3436UC)	"Line 3 and Briquette Plant"	05/07/07
Response to improvement condition IP11V	Noise Management Plan dated 25 th October 2013	25/10/13
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
Response to improvement condition IP13V	Report "Improvement Programme Requirement IP13V"	30/10/2015
Response to improvement condition IP14V	IP14V Report IP14V Table	22/12/2015
Response to improvement condition IP15V	IP15V Report IP15V Table	27/01/2016
Response to improvement condition IP16V	IP16V Report Figure 1 Installation Boundary and Sample location Plan (November 2011)	23/12/2015
Response to improvement condition IP18V Use of higher limit of 2200 mg/m ³ for sulphur dioxide on Cupola lines 1 and 2	IP18V Report Sulphur Dioxide Dispersion Modelling	29/01/2016 23/02/2016
Application EPR/BS6149IQ/V011	Document references: <ul style="list-style-type: none"> • "Application for a Variation to EPR Permit BS6149IQ to Install Flue Gas Desulphurisation Equipment on Line 3 Cupola (A19)" • "ROCKWOOL Ltd application to NRW for recycling permit variation" 	01/11/2022 21/04/2023

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IP13V	<p>The Operator shall submit a written report describing how the raw materials used in Cupolas 1, 2 and 3 are selected in order to reduce or prevent emissions to air.</p> <p>The Operator shall have regard to the BAT Conclusions for the Manufacture of Glass, section 1.1.4 “General Primary Techniques”, and item 6.</p> <p>In particular, the report shall describe how incoming raw materials are controlled and tested prior to use to ensure that impurities are minimised. Where relevant, the report shall also give example of where existing raw materials have been substituted with alternatives (e.g. less volatile), which are less polluting with regard to air emissions from Cupolas 1, 2, and 3.</p>	Completed
IP14V	<p>The Operator shall submit a written report identifying which surrogate parameters are monitored continuously for the purposes of ensuring that emission levels are maintained between discontinuous measurements.</p> <p>The Operator shall have regard to the BAT Conclusions for the Manufacture of Glass, section 1.1.4 “General Primary Techniques”, item 7 (vii) and shall expand on the information given in the regulation 60 notice response dated 30th May 2014.</p> <p>All parameters associated with emissions to air (Table S3.1 of this permit) which are discontinuously monitored shall be included. The report shall also describe how each surrogate parameter is measured.</p>	Completed
IP15V	<p>BAT-AEL only apply during normal operating conditions. On this basis, the Operator shall submit a written report for approval by Natural Resources Wales defining the parameters of normal operating conditions. The report shall include each plant item for which BAT AEL's apply.</p>	Completed
IP16V	<p>The Operator shall submit the written protocol referenced in condition 3.1.5 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.</p> <p><i>The procedure shall be implemented in accordance with the written approval from Natural Resources Wales.</i></p>	Completed
IP17V	<p>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.</p>	Completed
IP18V	<p>The operator shall submit, for written approval, revised Sulphur Dioxide air emission limits for the A1, A2 and A19 emission points. The proposed emission limits shall be supported by:</p> <ul style="list-style-type: none"> proposals on how the operator intends to set a Sulphur Dioxide limit based on Sulphur balance calculations; Air quality modelling assessment which will need to demonstrate that any changes in Sulphur Dioxide emission limits will not have an impact on local air quality (this assessment will need to also demonstrate no adverse impact on designated habitats); an assessment of the environmental impact of using virgin raw material in the process as opposed to waste products. <p>On approval the submission will form part of the operating techniques referred to in the permit.</p>	Completed

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IP19V	<p>If storing Priority Hazardous Substances on site, the Operator must carry out the following assessments with reference to the Environment Agency's guidance document H1 Annex D1 'Assessment of hazardous pollutants within surface water discharges',</p> <ul style="list-style-type: none"> • Phase 1 Part A screening tests for mercury, cadmium, nickel, lead, benzene, polyaromatic hydrocarbons and any other relevant substances. • Phase 1 Part B screening tests for mercury, cadmium, polyaromatic hydrocarbons and any other relevant priority hazardous substances. For any substance which is not screened out by the Phase 1 Part A or Part B screening tests the Operator will also need to carry out Phase 2 modelling, as described in H1 Annex D1. <p>The Operator must provide Natural Resources Wales with the results of the emissions monitoring, the results from the screening tests and the results from any Phase 2 modelling. The Operator may use the Environment Agency's H1 electronic screening tool to present the emissions data and to carry out the Phase 1 screening tests.</p> <p>Note: With regard to the Phase 1 Part A screening - a full list of relevant substances is provided in Tables 1 and 2 of Appendix 1 of the Environment Agency's H1 Annex D1 guidance. The Operator must review the list and carry out the screening for any substances, in addition to those specified in the notice that may be present in the installations discharges to surface water. With regard to the Phase 1 Part B screening for priority hazardous pollutants, Table 1 in section 2.3.2 of H1 Annex D1 provides a full list of relevant priority hazardous substances and their associated annual significant loads.</p>	Completed
IP20V	<p>Unless otherwise agreed, in writing, with Natural Resources Wales the operator shall undertake the following corrective and maintenance actions at the installation's line 3 curing oven.</p> <p>Every access door or hatch located on the Line 3 curing oven shall be subject to the following:</p> <ul style="list-style-type: none"> • the existing door seal will be removed; • the door will then be subject to a deep clean; • a new door seal will be installed to provide an air tight seal. 	Completed
IP21V	The first set of six-monthly monitoring at the A22 emission point during the 2019 period, shall be scheduled to be undertaken between the 2nd April 2019 and the 30th June 2019, unless otherwise agreed in writing with Natural Resources Wales.	Completed
IP22V	A written report shall be submitted to Natural Resources Wales for approval. The report shall describe progress with development and implementation of ammonia emissions reductions to air and the predicted or monitored improvement in process contribution at the Brynna a Wern Tarw SSSI. Further reports shall be submitted annually, subject to review following implementation of emissions reductions, and until notified in writing by Natural Resources Wales.	31/12/2023

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
PO1	Acceptance and use of waste stone material from Rockfon Sites	Before the acceptance of waste from Rockfon sites the operator must submit to Natural Resources Wales the finalised waste acceptance criteria and waste acceptance procedures for accepting waste stone from Rockfon sites and receive written approval from Natural Resources Wales.

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
No Specifications set	-

Table S2.2 Permitted waste types and quantities of customer returned to Rockwool for recycling and waste Rockfon products for recycling

Maximum quantity	<i>250 tonnes</i>
Waste code	Description
10	Wastes from thermal processes
10 09	Wastes from casting of ferrous pieces
10 09 12	Other particulates other than those mentioned in 10 09 11 limited to olivine sand
10 10	Wastes from casting of non-ferrous pieces
10 10 12	Other particulates other than those mentioned in 10 10 11 limited to olivine sand
17	Construction and Demolition Wastes (including excavated soil from contaminated sites)
17 06	Insulation materials and asbestos-containing construction materials
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 (75m high) NGR SS 95950 84010	Cupola 1	Particulate matter	10 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
A2 (75m high) NGR SS 95950 84012	Cupola 2	Oxides of nitrogen	500 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
		Sulphur dioxide	1400 mg/Nm ³ Note 4	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
		Hydrogen Chloride	30 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	Monitoring methods used shall be in accordance with Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring".
		Hydrogen fluoride	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	
		Hydrogen Sulphide	2 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	
		Carbon monoxide	100 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Group 1 Metals (Note 2)	1 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”.
		Group 2 Metals (Note 3)	2 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”.
		Particulate matter	30 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”.
		Ammonia	50 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”.
A3 (75m high) NGR SS 95953 84010	Spinning chamber 1					
A4 (75m high) NGR SS 95953 84012	Spinning chamber 2	Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”.

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A5 (17m high) NGR SS 95980 84021 and A6 (17m high) NGR SS 95980 84002		Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Volatile Organic Compounds as C	20 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Amines	3 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
	Curing Oven 1 and 2	Particulate matter	30 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Ammonia	60 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with
		Volatile Organic Compounds as C	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring".
		Amines	2 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Oxides of Nitrogen (expressed as NO ₂)	200 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
A7 (13m high) NGR SS 95986 84021	Cooling zone 1	Particulate matter	50 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
A8 (13m high) NGR SS 95986 84002	Cooling zone 2	Ammonia	50 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Volatile Organic Compounds as C	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Amines	3 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with
A9 (13m high) NGR SS 95990 84023	Dust Filter	Particulate Matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring"
A10 (10m high) NGR SS 95972 84022	Sweep up filter	Particulate Matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A11 (13m high) NGR SS 95990 84020	Dust filter to “slab” on line grinder	Particulate Matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
A12 (13m high) NGR SS 95935 84097	PSM 56 pipe section	Particulate Matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
	RSM 1 pipe section	Ammonia	40 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
	RSM 2 pipe section	Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
	A13a (13m high) NGR SS 96007 84087	Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
	A13b (13m high) NGR SS 96007 84087	Volatile Organic Compounds as C	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
A14 (13m high) NGR SS 96008 84087	RSM 4 pipe section					
A16 (30m high) NGR SS 95930 84015	Cupola 1 emergency chimney	No monitoring required				
A17 (30m high) NGR SS 95930 93995	Cupola 2 emergency chimney	No monitoring required				

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A18 (17m high) NGR SS 95930 84030	Pipe section grinder	Particulate Matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”
A19 (75m high) NGR SS 95950 84012	Cupola 3	Particulate Matter	10 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
		Oxides of nitrogen	500 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
		Sulphur dioxide	1400 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
	Cupola 3	Hydrogen chloride	30 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	Monitoring methods used shall be in accordance with Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”
		Hydrogen fluoride	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”
		Hydrogen sulphide	2 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	Environment Agency document “ <i>Monitoring stack emissions: techniques and standards for periodic monitoring</i> ”

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Carbon monoxide (Note 1)	50 mg/Nm ³	Daily average	Continuous	Technical Guidance Note (Monitoring) M20 ^{note 1}
		Group 1 Metals (Note 2)	1 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with
		Group 2 Metals (Note 3)	2 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring"
A20 (30m high) NGR SS 95864 84070	Cupola 3 emergency chimney	No monitoring required				
A21 (75m high) NGR SS 95860 84100	Spinning Chamber 3	Particulate matter	30 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with
		Ammonia	50 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring".
		Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A22 (20m high) NGR SS 95920 84090	Curing Oven 3	Volatile Organic Compounds as C	20 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring".
		Amines	3 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Particulate matter	30 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Ammonia	60 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Volatile Organic Compounds as C	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Amines	2 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Oxides of Nitrogen (expressed as NO ₂)	200 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A23 (13m high) NGR SS 95922 84090	Cooling zone 3	Particulate matter	50 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	Monitoring methods used shall be in accordance with Environment Agency document "Monitoring stack emissions: techniques and standards for periodic monitoring"
		Ammonia	50 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Phenol	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Volatile Organic Compounds as C	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Amines	3 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
A24 (20m high) NGR SS 95945 84097	Line 3 cutting saw filter	Particulate matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	Annual	
A25 (40m high) NGR SS 95912 84033	Cement briquette plant	Particulate matter	10 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
		Ammonia	145 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Formaldehyde	5 mg/Nm ³	Average of 3 spot samples of at least 30 minutes each	6-monthly	
A26a (13m high) NGR SS 95980 84066						
A26b (13m high) NGR SS 95980 84066	Fire retardant coating line				No monitoring required	
A26c (13m high) NGR SS 95980 84066	heating chamber vent					
A26d (13m high) NGR SS 95980 84066						
A26e (13m high) NGR SS 95980 84066	Fire retardant coating line air curtain at side 1 inlet				No monitoring required	
A26f (13m high) NGR SS 95980 84066	Fire retardant coating line air curtain at side 1 outlet				No monitoring required	
A26g (13m high) NGR SS 95980 84066	Fire retardant coating line air curtain at side 2 oven inlet				No monitoring required	
A26h (13m high) NGR SS 95980 84066	Fire retardant coating line air curtain at side 2 oven outlet				No monitoring required	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A26i (13m high) NGR SS 95980 84066	Fire retardant coating line side 1 coating head				No monitoring required	
A26j (13m high) NGR SS 95980 84066	Fire retardant coating line side 2 coating head				No monitoring required	
A26k (13m high) NGR SS 95980 84066	Fire retardant coating line side 1 drying oven extractor hood head				No monitoring required	
A26l (13m high) NGR SS 95980 84066	Fire retardant coating line cooling zone vent				No monitoring required	

Note 1: CEMs which meet the MCERTS requirements should also follow the principles of EN 14181 (i.e. QAL2/AST and QAL3) but a reduced number of parallel measurements may be acceptable (subject to NRW approval).

Note 2: Group 1 metals (and their compounds): Arsenic, Cobalt, Nickel, Cadmium, Selenium, Chromium VI

Note 3: Group 2 metals (and their compounds): Arsenic, Cobalt, Nickel, Cadmium, Selenium, Chromium (VI), Antimony, Lead, Chromium (III), Copper, Manganese, Vanadium Tin

Note 4: A higher limit of 2200 mg/m³ is applied on emission points A1 and A2 only when the process is using recycled materials with a higher sulphur balance in accordance with the response to improvement condition IP18V dated 29/01/2016 and 23/02/2016

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

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 (discharge into tributary of the Nant Ton-y-Groes at NGR SS 96213 83963)	Surface water from settlement tank overflow	pH	6.5 – 9.0	Daily flow proportional sample ^[1]	Daily	BS 6068-2.50:1995
		Suspended solids	30 mg/l	Daily flow proportional sample ^[1]	Weekly	BS EN 872:2005
		Ammoniacal Nitrogen	1.3 mg/l	Daily flow proportional sample ^[1]	Daily	BS6068-2.11:1984
		Phenol	0.5 mg/l	Daily flow proportional sample ^[1]	Daily	

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

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
		Formaldehyde	1 mg/l	Daily flow proportional sample ^[1]	Monthly	SCA Blue book – methods for the examination of water and other materials
		Oil and grease	5 mg/l	Daily flow proportional sample ^[1]	Monthly	FTIR
		Chemical Oxygen Demand (COD)	No limit set	Daily flow proportional sample ^[1]	Daily	BS 6068 – 2.34:1988
W2 (discharge into tributary of the Nant Ton-y-Groes at NGR SS 96217 83983)	Uncontaminated surface water	Inspect for visible signs of contamination	No limit set	Daily visual check	Daily	Daily visual check

[1] For 95% of all measured values of periodic samples taken over the previous 100 days.

Table S3.3 Point source emissions to sewer

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 on sewer emission plan in schedule 7 (NGR SS 96192 83972)	Discharge of surface water via settlement tank	-	-	-	-	-

Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air (continuous) Parameters as required by condition 3.5.1	A1, A2, A19	Quarterly	1 January, 1 April, 1 July, 1 October
Emissions to air (periodic) Parameters as required by condition 3.5.1	A1, A2, A3, A4, A5, A6, A7, A8, A19, A21, A22, A23, A25	Every 6 months	1 January, 1 July
Emissions to air (periodic) Parameters as required by condition 3.5.1	A1, A2, A9, A10, A11, A12, A13a, A13b, A14, A18, A19, A24	Annual	1 January
Surface water monitoring Parameters as required by condition 3.5.1	W1	Quarterly	1 January, 1 April, 1 July, 1 October

Table S4.2: Annual production/treatment	
Parameter	Units
Mineral wool produced	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	M ³
Gas usage	Annually	MWh
Electricity usage	Annually	MWh
Coke usage	Annually	MWh
Total energy usage	Annually	MWh
Internal recycle of ROCKWOOL and ROCKWOOL products	Annually	Tonnes
Recycle of ROCKWOOL and ROCKWOOL products from external sources	Annually	Tonnes

Table S4.4 Reporting forms		
Media/parameter	Reporting format (or other form as agreed in writing by Natural Resources Wales)	Date of form
Air	Form Air 1 (annual periodic monitoring emission points A1, A2, A18, A19, A24)	31/07/15
	Form Air 2A (Bi-annual periodic monitoring emission points A1 – A11, A19, A21 – A23, A25)	31/07/15
	Form Air 2B (Bi-annual periodic monitoring emission points A12 – A14)	31/07/15
	Form Air 3 (Particulate matter continuous monitoring emission points A1, A2, A19)	31/07/15
	Form Air 4 (Oxides of nitrogen as NO ₂ continuous monitoring, emission points A1, A2, A19)	31/07/15

Table S4.4 Reporting forms

Media/parameter	Reporting format (or other form as agreed in writing by Natural Resources Wales)	Date of form
	Form Air 5 (sulphur dioxide continuous monitoring, emission points A1, A2, A19)	31/07/15
	Form Air 8 (carbon monoxide continuous monitoring, emission points A1, A2, A19)	31/07/15
Water	Form Water 1 (quarterly report for emission point W1)	31/07/15
Energy usage	Form Energy 1	31/07/15
Water usage	Form Water usage 1	31/07/15
Other performance indicators	Form Performance 1	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	EPR/BS6149IQ
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 within 24 hours of detection	
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 within 24 hours of detection unless otherwise specified below	
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 within 24 hours of detection

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

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

“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.

“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.

“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.

“background concentration” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“disposal” or “D” means any of the operations 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 2016 No.1154 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 or background concentration 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.

“hazardous property” has the meaning in Annex III of the Waste Framework Directive

“hazardous waste” has the meaning given in the Hazardous Waste (Wales) Regulations 2005 (as amended)

“hazardous substance” means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

“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.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” or “R” means any of the operations 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 established by Commission Decision 2000/532/EC as amended from time to time (the ‘List of Wastes Decision’) and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or *“WFD”* means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

“year” means calendar year ending 31 December.

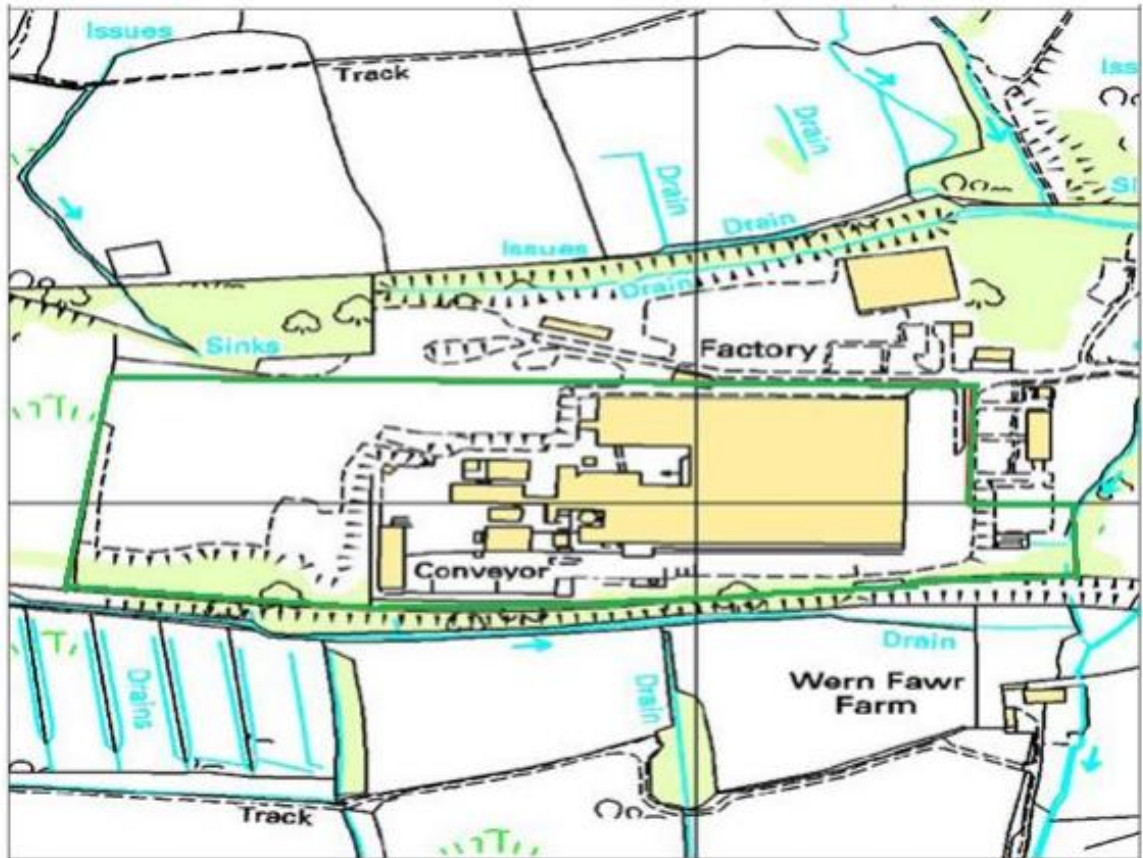
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

- (a) in relation to emissions from the cupola(s), the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 8%.
- (b) in relation to emissions from other sources (none melting, downstream processes), the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa with no correction for oxygen.

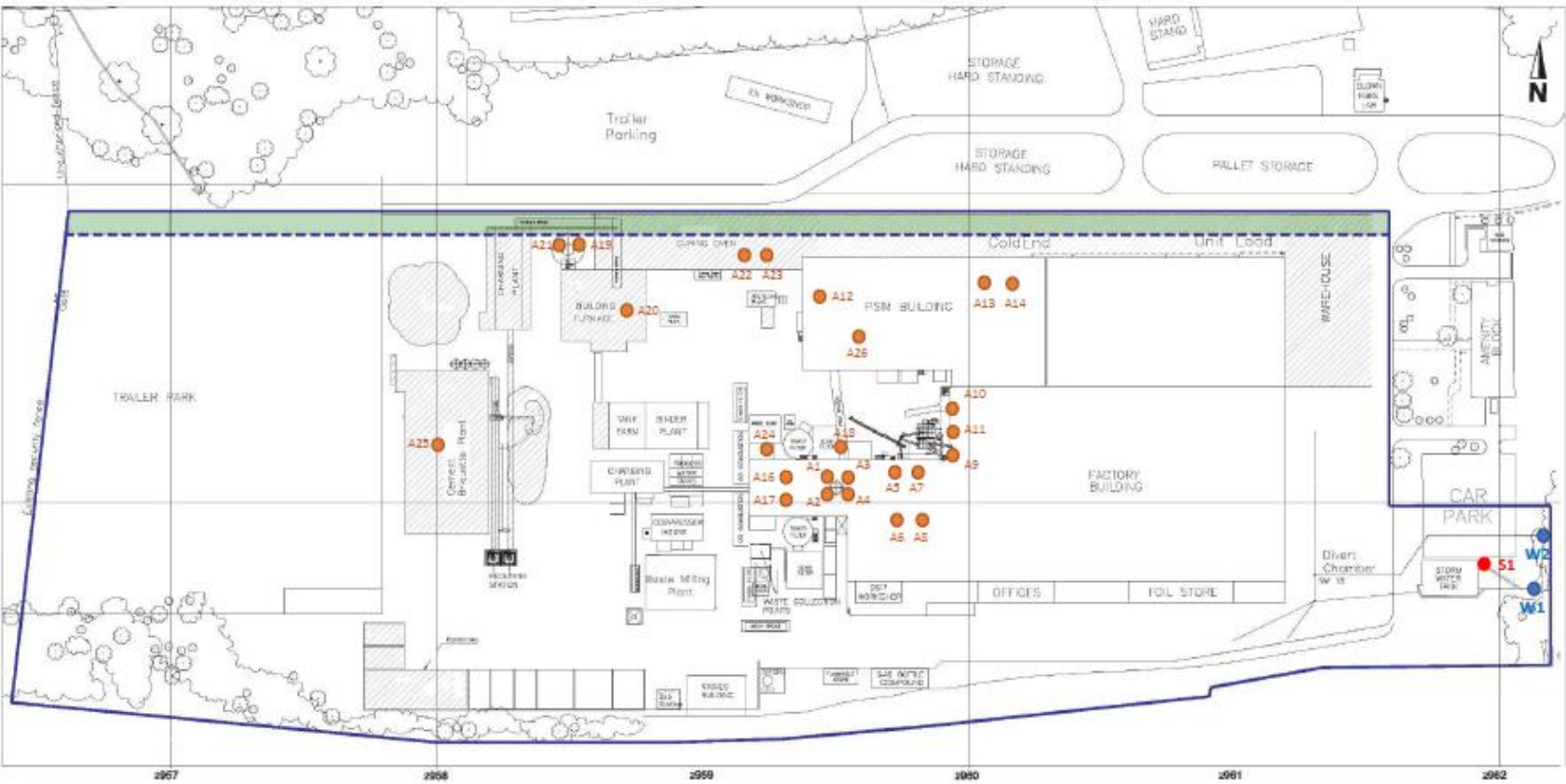
Schedule 7 - Site plan

Site Plan



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Emission Point Plan



A1	Cupola 1	A7	Cooling zone 1	A13	RSM 1-2 pipe section (a-b)	A20	Cupola 3 emergency chimney	A28	Fire retardant coating line (a-d)
A2	Cupola 2	A8	Cooling zone 2	A14	RSM 4 pipe section	A21	Spinning chamber 3	W1	Surface water from settlement tank overflow
A3	Spinning chamber 1	A9	Dust filter	A16	Cupola 1 emergency chimney	A22	Curing oven 3	W2	Uncontaminated surface water
A4	Spinning chamber 2	A20	Sweep-up filter	A17	Cupola 2 emergency chimney	A23	Cooling zone 3	S1	Discharge of surface water via settlement tanks
A5	Curing oven 1	A11	Dust filter for 'slab' on-line grinder	A18	Pipe section grinder	A24	Line 3 cutting saw filter		
A6	Curing oven 2	A12	PSM 56 pipe section	A19	Cupola 3	A25	Cement briquette plant		

- Point source emissions to air
- Point source emissions to water
- Point source emissions to sewer

MANHOLE (SW18)
CL=71.40
IL=69.659
1500Ø

PRECAST CONCRETE HEADWALL
FOR 600 OUTLET WITH 150mm C30 CONCRETE FOUNDATION WITH
A393 MESH IN BOTTOM FACE ON 150MM TYPE 1 SUB-BASE. 600MM
CAST IRON FLAP VALVE BY HAM BAKER. IL=69.165 TBC
ALTHON PRECAST HEADWALL H10C OR SIMILAR APPROVED INSTALLED
IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS

V-NOTCH WEIR

W2

W1

STORMWATER TANK

BYPASS CHANNEL

BY PASS CHANNEL

150ØFWD

150ØFWD

SITE CONNECTION TO SEWER

TREES

DITCH

DITCH

MH CATCHPIT
CL 70.08
IL 67.54

MH CATCHPIT
CL 70.08
IL 67.60

MH CATCHPIT
CL 70.12
IL 67.58

MH CATCHPIT
CL 70.29
IL 68.57

MH SW
CL 70.09
IL 68.47

MH CATCHPIT
CL 70.11
IL 67.55

INV 68.52 / 0.45

INV 69.35

INV 69.01

INV 67.37 / 0.98

INV 68.28

INV 68.39 / 0.30

INV 69.76

INV 68.39 / 0.30

INV 69.01

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