Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1b

Reporting of emissions to air for year 2018 **Point A, Cupola After Oxidiser Stack**

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
A	Chlorides (expressed as hydrogen chloride)	10 mg/m^3	76.5	16/05/2018 10:35 to 11:05	2.8	16/05/2018 11:11 to 11:41	33.2	16/05/2018 11:53 to 12:23
A	Fluorides (expressed as hydrogen fluoride)	5 mg/m^3	1.7	16/05/2018 10:40 to 11:10	2.6	16/05/2018 11:18 to 11:48	4.1	16/05/2018 12:00 to 12:30
A	Hydrogen sulphide	2 mg/m^3	<0.32	15/05/2018 10:30 to 12:30	<0.36	15/05/2018 13:15 to 18:30	<0.29	16/05/2018 08:25 to 10:25
A	Metals (group 1)	1 mg/m^3	0.27	15/05/2018 13:03 to 13:37	0.08	15/05/2018 13:52 to 14:26	0.25	15/05/2018 14:50 to 18:35
A	Metals (group 2)	2 mg/m^3	0.32	15/05/2018 13:03 to 13:37	0.16	15/05/2018 13:52 to 14:26	0.32	15/05/2018 14:50 to 18:35

Note: The monitoring results recorded concentrations of Hydrogen Chloride (Run 1 & Run 2) in excess of the Emission Limit Values. This was reported as an un-authorised release on 19th July 2018 (Reference EP_EX_202).

Signed ..... Date.....19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 6 month period for 1st January to 30th June 2018 Point C, Forming Stack

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
C	Particulate Matter	50 mg/m^3	27.1	15/05/2018 09:00 to 10:05	10.4	15/05/2018 10:15 to 11:20	18.0	15/05/2018 11:30 to 12:35
C	Volatile Organic Compounds as C	30 mg/m^3	16.3	14/05/2018 16:45 to 17:15	21.3	14/05/2018 17:20 to 17:50	21.7	14/05/2018 17:55 to 18:25
C	Ammonia	50 mg/m^3	27.6	15/05/2018 09:00 to 10:05	34.8	15/05/2018 10:15 to 11:20	37.9	15/05/2018 11:30 to 12:35
C	Formaldehyde	5 mg/m^3	2.6	14/05/2018 14:31 to 15:01	3.0	14/05/2018 15:20 to 15:50	2.0	14/05/2018 16:05 to 16:35
C	Phenol	10 mg/m^3	<0.43	14/05/2018 17:10 to 17:40	<0.41	14/05/2018 17:45 to 18:15	<0.41	14/05/2018 18:20 to 18:50
C	Amines	3 mg/m^3	<2.7	14/05/2018 13:50 to 14:50	<2.7	14/05/2018 14:55 to 15:55	<2.8	14/05/2018 16:00 to 17:00

Signed ..... Date.....19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 6 month period for 1st July to 31st December 2018 Point C, Forming Stack

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Sample Date and Times	Result [2]	Sample Date and Times	Result [3]	Sample Date and Times
C	Particulate Matter	50 mg / m3	60.7 (*)	18/10/2018 09:05 – 09:20 09:23 – 09:38 09:41 – 09:56 09:59 – 10:14	41.3	18/10/2018 11:00 – 11:15 11:17 – 11:32 11:35 – 11:50 11:52 – 12:07	62.8 (*)	18/10/2018 12:17 – 12:32 12:35 – 12:50 12.53 – 13:08 13:11 – 13:26
C	Volatile Organic Compounds as C	30 mg / m3	25.1	17/10/2018 17:00 – 17:30	26.7	17/10/2018 17:31 – 18:01	27.0	17/10/2018 18:02 – 18:32
C	Ammonia	50 mg / m3	16.0	18/10/2018 09:05 – 09:20 09:23 – 09:38 09:41 – 09:56 09:59 – 10:14	13.2	18/10/2018 11:00 – 11:15 11:17 – 11:32 11:35 – 11:50 11:52 – 12:07	21.9	18/10/2018 12:17 – 12:32 12:35 – 12:50 12.53 – 13:08 13:11 – 13:26
C	Formaldehyde	5 mg / m3	1.3	17/10/2018 14:40 – 15:10	1.5	17/10/2018 15:20 – 15:50	1.8	17/10/2018 16:20 – 16:50
C	Phenol	10 mg / m3	< 0.16	18/10/2018 08:45 – 09:45	< 0.16	18/10/2018 09:50 – 11:20	< 0.16	18/10/2018 11:30 – 12:30
C	Amines	3 mg/m3	< 1.3	18/10/2019 08:45 – 09:45	< 1.3	18/10/2018 09:50 – 11:25	< 1.3	18/10/2018 11:30 – 12:30

Note: All results are expressed in mg/Nm^3 without correction for water vapour.

Note: (*) Particulate matter limit exceeded EP_EX_217 refers.

Signed …… Date……24/1/2019

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1d

Reporting of emissions to air for the year 2018 **Point D, Binder Fume Plant Extraction**

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
D	Particulate Matter	N/A	0.89	16/05/2018 14:45 to 18:05	0.35	17/05/2018 08:46 to 09:46	1.6	17/05/2018 09:51 to 10:51
D	Volatile Organic Compounds as C	N/A	3.4	17/05/2018 08:50 to 09:20	3.5	17/05/2018 09:25 to 09:55	3.5	17/05/2018 10:00 to 10:30
D	Ammonia	N/A	18.2	16/05/2018 14:45 to 18:05	1.5	17/05/2018 08:46 to 09:46	2.0	17/05/2018 09:51 to 10:51
D	Formaldehyde	N/A	3.7	16/05/2018 14:50 to 15:20	3.5	16/05/2018 17:50 to 18:20	1.8	16/05/2018 18:25 to 18:55
D	Phenol	N/A	<0.42	17/05/2018 08:50 to 09:20	<0.42	17/05/2018 09:25 to 09:55	<0.43	17/05/2018 10:00 to 10:30
D	Amines	N/A	<2.7	16/05/2018 14:05 to 15:05	<2.7	16/05/2018 17:20 to 18:20	<2.8	16/05/2018 18:25 to 19:25

Signed ..... Date.....19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1e

Reporting of emissions to air for the year 2018 **Point F, Curing Oven Stack**

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
F	Particulate Matter	10 mg/m^3	1.1	17/10/2018 09:52 – 10:52	0.46	17/10/2018 11:03 – 12:03	0.68	17/10/2018 12:15 – 13:15
F	Volatile Organic Compounds as C	10 mg/m^3	4.7	16/10/2018 09:20 – 09:50	4.7	16/10/2018 09:51 – 10:21	4.9	16/10/2018 10:22 – 10:52
F	Ammonia	10 mg/m^3	14.5	17/10/2018 09:52 – 10:52	9.8	17/10/2018 11:03 – 12:03	4.2	17/10/2018 12:15 – 13:15
F	Formaldehyde	5 mg/m^3	0.74	16/10/2018 16:27 – 16:57	0.29	16/10/2018 17:02 – 17:32	0.26	16/10/2018 17:38 – 18:08
F	Phenol	5 mg/m^3	< 0.16	17/10/2018 09:20 – 11:20	< 0.16	17/10/2018 11:23 – 13:23	< 0.16	17/10/2018 13:27 – 15:27
F	Amines	2 mg/m^3	< 1.3	16/10/2018 11:15 – 13:15	< 1.3	16/10/2018 13:20 – 15:20	< 1.2	16/10/2018 15:25 – 17:25
F	Nitrogen Dioxide	200 mg/m^3	24.0	16/10/2018 22:00 – 22:30	25.4	16/10/2018 22:31 – 23:01	26.1	16/10/2018 23:02 – 23:32

Signed …… Date……24/1/2019

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st January to 31st March 2018 Point G, Cooling Zone Stack

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
G	Particulate Matter	10 mg/m^3	11.1*	05/02/2018 14:40 to 16:22	5.8	05/02/2018 16:26 to 18:30	10.7**	06/02/2018 08:01 to 09:45
G	Ammonia	10 mg/m^3	14.5	05/02/2018 14:40 to 16:22	6.9	05/02/2018 16:26 to 18:30	12.9	06/02/2018 08:01 to 09:45

Note: The monitoring results recorded concentrations of Ammonia (Run 1 & Run 3) in excess of the Emission Limit Values. This was reported as an un-authorised release on 20th July 2018 (Reference EP_EX_203).

With respect to Particulate Matter and in accordance with TGN M2, the results for Run 1 and Run 3 were reported on 20th July 2018 ((Reference EP_EX_203) as an approach to limit given that the adjusted value is below the ELV.

Signed ..... Date.....19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st April to 30th June 2018 Point G, Cooling Zone Stack

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
G	Particulate Matter	10 mg/m^3	30.6	17/05/2018 11:53 to 12:55	17.6	17/05/2018 13:03 to 14:05	9.4	17/05/2018 14:12 to 15:14
G	Ammonia	10 mg/m^3	15.0	17/05/2018 11:53 to 12:55	17.3	17/05/2018 13:03 to 14:05	18.8	17/05/2018 14:12 to 15:14

Note: The monitoring results recorded concentrations of Particulate Matter (Run 1 & Run 2) and Ammonia (all results) in excess of the Emission Limit Values. This was reported as an un-authorised release on 20th July 2018 (Reference EP_EX_203).

Signed …… Date……19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st July to 30th September 2018 Point G, Cooling Zone Stack

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
G	Particulate Matter	10 mg/m^3	6.6	10/07/2018 13:55 to 14:57	5.8	10/07/2018 15:10 to 16:13	13.7	11/07/2018 08:50 to 09:52
G	Ammonia	10 mg/m^3	6.6	10/07/2018 13:55 to 14:57	6.5	10/07/2018 15:10 to 16:13	17.3	11/07/2018 08:50 to 09:52

Note: The monitoring results recorded concentrations of Particulate Matter & Ammonia (Run 3) in excess of the Emission Limit Values. This was reported as an un-authorised release on 19th September 2018 (Reference EP_EX_206).

Signed ..... Date.....19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st October to 31st December 2018 Point G, Cooling Zone Stack

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
G	Particulate Matter	10 mg/m^3	7.8	16/10/2018 09:40 – 10:10 10:12 – 10:42	7.1	16/10/2018 10:46 – 11:16 11:18 – 11:48	6.8	16/10/2018 11:51 – 12:21 12:23 – 12:53
G	Ammonia	10 mg/m^3	15.8 (*)	16/10/2018 09:40 – 10:10 10:12 – 10:42	<0.03	16/10/2018 10:46 – 11:16 11:18 – 11:48	11.7 (*)	16/10/2018 11:51 – 12:21 12:23 – 12:53

Note: Ammonia emission limit exceeded EP_EX_219 refers.

Signed …… Date……24/1/2019

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1e

Reporting of emissions to air for the year 2018 **Point G, Cooling Zone Stack**

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
G	Volatile Organic Compounds as C	15 mg/m^3	6.1	15/10/18 18:10 – 18:40	3.6	15/10/18 18:41 – 19:11	3.0	15/10/18 19:12 – 19:42
G	Formaldehyde	5 mg/m^3	0.74	16/10/18 14:20 – 14:50	0.56	16/10/18 14:55 – 15:25	0.39	16/10/18 15:00 – 15:30
G	Phenol	5 mg/m^3	< 0.20	15/10/2018 14:30 – 15:30	< 0.20	15/10/2018 15:35 – 16:35	< 0.21	15/10/2018 16:40 – 17:40
G	Amines	5 mg/m^3	< 1.4	15/10/18 14:30 – 15:30	< 1.3	15/10/18 15:35 – 16:35	< 1.4	15/10/18 16:40 – 17:40

Signed …… Date……24/1/2019

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st January to 31st March 2018 Point Y, Cold End Dust Extraction No.2

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
Y	Particulate Matter	10 mg/m^3	1.1	05/02/2018 14:00 to 16:00	0.52	05/02/2018 16:15 to 18:15	0.52	06/02/2018 12:22 to 13:30

Signed …… Date……19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st April to 30th June 2018 Point Y, Cold End Dust Extraction No.2

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
Y	Particulate Matter	10 mg/m^3	0.19	17/05/2018 15:31 to 16:33	0.33	17/05/2018 16:37 to 17:39	0.68	17/05/2018 17:45 to 18:47

Signed ..... Date.....19/09/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st July to 30th September 2018 Point Y, Cold End Dust Extraction No.2

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
Y	Particulate Matter	10 mg/m^3	0.16	12/07/2018 09:25 to 10:27	0.15	12/07/2018 10:35 to 11:37	0.15	12/07/2018 11:43 to 12:45

Signed …… Date……19/01/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Air1c

Reporting of emissions to air for the 3 month period for 1st October to 31st December 2018 Point Y, Cold End Dust Extraction No.2

Emission Point	Substance / Parameter	Emission Limit Value	Result 1	Sample Date and Time	Result 2	Sample Date and Time	Result 3	Sample date and Time
Y	Particulate Matter	10 mg/m^3	0.39	15/10/18 14:05 - 14:35 14:37 - 15:07	1.63	15/10/18 15:11 - 15:41 15:43 - 16:13	0.40	15/10/2018 16:16 – 16:46 16:48 – 17:18

Signed …… Date……24/1/2019

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Water1

Reporting of emissions to water (other than to sewer) for the six months from 1st January to 30th June 2018

Emission Point	pH	Suspended Solids	COD	Sample Date	Sample Time
L3	7.65	12.2	34	13/07/18	11:20
L4	7.87	17	38.6	13/07/18	11:30
L5	7.49	262	226	13/07/18	10:35
L6	7.45	52.3	96.5	13/07/18	10:55

Signed …… Date……19/09/2018
(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Water1

Reporting of emissions to water (other than to sewer) for the six months from 1st July to 31st December 2018

Emission Point	pH	Suspended Solids	COD	Sample Date	Sample Time
L3	6.95	12.5	30.6	5/12/2018	09:40
L4	8.04	40.4	34.3	5/12/2018	09:20
L5	7.43	9.15	< 7	5/12/2018	08:40
L6	7.13	7.15	17.9	5/12/2018	08:30

Signed …… Date……20/12/2018

(Authorised to sign as representative of Operator)

Permit Number: EPR/BR9383ID/V009 Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works Form Number: Water1

Reporting of performance indicators for the year 2018

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total hours operating with by- pass stack open & blast air on	0.00	0.11	0.14	0.47	0.25	0.00	0.08	0.06	0.34	0.01	0.38	0.21

Energy	Primary Energy Imported MWh
Total Energy	123309.8

Water Source	Usage (m3/year)
Mains water	43056
Other water	n/a
TOTAL WATER USAGE	

Signed …… Date……25/1/2019

(Authorised to sign as representative of Operator)