

Permit Number: EPR/BR9383ID/V008

Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works

Form Number: Air1b

**Reporting of emissions to air for year 2016**

**Periodic Emissions Point A**

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 <sup>3</sup>	33.9	27/06/2016 14:30 to 15:10	23.7	27/06/2016 15:35 to 16:14	28	27/06/2016 16:20 to 17:00
A	Fluorides (expressed as hydrogen fluoride)	5 mg/m <sup>3</sup>	0.34	27/06/2016 17:10 to 17:40	0.86	27/06/2016 17:47 to 18:17	0.51	27/06/2016 18:22 to 18:52
A	Hydrogen sulphide	2 mg/m <sup>3</sup>	<0.00	27/06/2016 14:15 to 18:00	<0.00	28/06/2016 08:45 to 12:30	<0.00	27/06/2016 13:00 to 16:45
A	Metals (group 1)	1 mg/m <sup>3</sup>	0.53	28/06/2016 08:55 to 09:31	0.22	28/06/2016 09:43 to 10:19	0.26	28/06/2016 10:27 to 11:03
A	Metals (group 2)	2 mg/m <sup>3</sup>	0.61	28/06/2016 08:55 to 09:31	0.25	28/06/2016 08:55 to 09:31	0.28	28/06/2016 08:55 to 09:31

Group 1 Metals (and their compounds): Arsenic, Cobalt, Nickel, Selenium, Chromium VI

Group 2 Metals (and their compounds): Antimony, Lead Chromium III, Copper, Manganese, Vanadium, Tin

Note: The monitoring results recorded concentrations of Hydrogen Chloride (all results) in excess of the Emission Limit Values. This was reported as an un-authorized release on 2<sup>nd</sup> August 2016 (Reference EP\_EX\_162).

Signed .....   
(Authorised to sign as representative of Operator)

Date.....17/01/2017

Permit Number: EPR/BR9383ID/V008

Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works

Form Number: Air1c

**Reporting of emissions to air for the 6 month period for 1<sup>st</sup> January to 30<sup>th</sup> June 2016 Point C, Mainline forming stack**

Emission Point	Substance / Parameter	Emission Limit Value	Result <sup>[1]</sup>	Sample Date and Times	Result <sup>[2]</sup>	Sample Date and Times	Result <sup>[3]</sup>	Sample Date and Times
C	Particulate Matter	50 mg/m3	81.9	28/06/2016 16:10 to 17:15	74.8	28/06/2016 17:20 to 18:25	62.7	28/06/2016 18:30 to 19:35
C	Volatile Organic Compounds as C	30 mg/m3	5.1	28/06/2016 08:25 to 08:55	5.5	28/06/2016 09:00 to 09:30	8.5	28/06/2016 09:35 to 10:35
C	Ammonia	50 mg/m3	53.7	28/06/2016 16:10 to 17:15	55.4	28/06/2016 17:20 to 18:25	61.2	28/06/2016 17:20 to 18:25
C	Formaldehyde	5 mg/m3	2.8	28/06/2016 12:42 to 13:45	3.0	28/06/2016 13:48 to 15:53	3.4	28/06/2016 14:55 to 16:00
C	Phenol	10 mg/m3	<0.89	28/06/2016 12:30 to 12:35	<0.89	28/06/2016 14:30 to 14:35	<0.89	28/06/2016 16:30 to 16:35
C	Amines	3 mg/m3	<2.37	28/06/2016 12:30 to 12:35	<2.37	28/06/2016 14:30 to 14:35	<2.37	28/06/2016 16:30 to 16:35

Note: The monitoring results on 28<sup>th</sup> June, for Particulate Matter and Ammonia, were recorded in excess of the Emission Limit Values and reported as an un-authorised release on 2<sup>nd</sup> August 2016 (Reference EP\_EX\_161).

Re-tests, in triplicate, for Particulate Matter and Ammonia were undertaken on 16<sup>th</sup> August 2016 to show compliance.

Emission Point	Substance / Parameter	Emission Limit Value	Result <sup>[1]</sup>	Sample Date and Times	Result <sup>[2]</sup>	Sample Date and Times	Result <sup>[3]</sup>	Sample Date and Times
C	Particulate Matter	50 mg / m3	9.5	16/08/2016 09:15 to 10:15	15.4	16/08/2016 10:25 to 11:30	9.2	16/08/2016 11:30 to 12:35
C	Ammonia	50 mg / m3	32.5	16/08/2016 09:15 to 10:15	46	16/08/2016 09:15 to 10:15	47.9	16/08/2016 09:15 to 10:15

Signed ..... *Keusch*  
(Authorised to sign as representative of Operator)

Date.....17/01/2017

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Facility: Queensferry Mineral Fibre Works

Form Number: Air1c

Reporting of emissions to air for the 6 month period for 1<sup>st</sup> July to 31<sup>st</sup> December 2016

Point C, Mainline 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 <sup>3</sup>	38.6	18/10/2016 13:32 to 14:32	39.3	18/10/2016 14:14 to 15:50	32.7	18/10/2016 15:55 to 16:55
C	Volatile Organic Compounds as C	30 mg/m <sup>3</sup>	22.1	18/10/2016 14:05 to 14:35	15.8	18/10/2016 14:40 to 15:10	15.1	18/10/2016 15:15 to 15:45
C	Ammonia	50 mg/m <sup>3</sup>	33.4	18/10/2016 13:32 to 14:32	45.7	18/10/2016 14:14 to 15:50	48.3	18/10/2016 15:55 to 16:55
C	Formaldehyde	5 mg/m <sup>3</sup>	2.5	18/10/2016 17:10 to 18:10	1.1	18/10/2016 18:15 to 19:17	0.43	19/10/2016 09:30 to 10:30
C	Phenol	10 mg/m <sup>3</sup>	<0.58	18/10/2016 13:40 to 13:45	<0.58	18/10/2016 15:40 to 15:45	<0.58	18/10/2016 17:40 to 17:45
C	Amines	3 mg/m <sup>3</sup>	<1.9	18/10/2016 13:35 to 13:40	<1.9	18/10/2016 15:35 to 15:40	<1.9	18/10/2016 17:35 to 17:40

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Date.....17/01/2016

Permit Number: EPR/BR9383ID/V008

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Facility: Queensferry Mineral Fibre Works

Form Number: Air1d

**Reporting of emissions to air for the year 2016**

**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	<1.7	30/06/2016 08:40 to 09:40	<1.9	30/06/2016 09:45 to 10:45	2.3	30/06/2016 10:53 to 11:23
D	Volatile Organic Compounds as C	N/A	2.5	30/06/2016 08:25 to 08:55	3.4	30/06/2016 09:00 to 09:30	1.2	30/06/2016 09:35 to 10:35
D	Ammonia	N/A	94.1	30/06/2016 08:40 to 09:40	97.3	30/06/2016 09:45 to 10:45	118.2	30/06/2016 10:53 to 11:23
D	Formaldehyde	N/A	0.26	30/06/2016 12:03 to 12:43	0.18	30/06/2016 12:48 to 13:18	0.23	30/06/2016 13:22 to 13:52
D	Phenol	N/A	<0.59	30/06/2016 08:40 to 08:45	<0.59	30/06/2016 10:40 to 10:45	<0.59	30/06/2016 12:40 to 12:45
D	Amines	N/A	<2.3	30/06/2016 08:40 to 08:45	<2.3	30/06/2016 10:40 to 10:45	<2.31	30/06/2016 12:40 to 12:45

Signed ..... *Keusch*  
(Authorised to sign as representative of Operator)

Date.....17/01/2016

Permit Number: EPR/BR9383ID/V008

Operator: Knauf Insulation Ltd

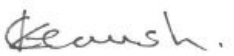
Facility: Queensferry Mineral Fibre Works

Form Number: Air1e

**Reporting of emissions to air for the year 2016**

**Point F, Mainline Curing Oven**

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 <sup>3</sup>	0.87	20/10/2016 11:38 to 13:18	<0.85	20/10/2016 13:41 to 15:01	<0.82	20/10/2016 15:42 to 17:02
F	Volatile Organic Compounds as C	10 mg / m <sup>3</sup>	9.3	20/10/2016 11:00 to 11:30	9.0	20/10/2016 11:31 to 12:01	9.7	20/10/2016 12:02 to 12:32
F	Ammonia	10 mg / m <sup>3</sup>	1.5	20/10/2016 11:38 to 13:18	1.1	20/10/2016 13:41 to 15:01	1.9	20/10/2016 15:42 to 17:02
F	Formaldehyde	5 mg / m <sup>3</sup>	0.44	20/10/2016 09:43 to 10:13	0.037	20/10/2016 10:18 to 10:48	0.46	20/10/2016 10:53 to 11:23
F	Phenol	5 mg / m <sup>3</sup>	<0.57	20/10/2016 10:20 to 10:25	<0.57	20/10/2016 12:20 to 12:25	<0.57	20/10/2016 14:20 to 14:25
F	Amines	2 mg/m <sup>3</sup>	<1.89	20/10/2016 10:25 to 10:30	<1.89	20/10/2016 12:25 to 12:30	<1.89	20/10/2016 14:25 to 14:30
F	Nitrogen Dioxide	200 mg/m <sup>3</sup>	40.9	20/10/2016 13:10 to 13:40	34	20/10/2016 13:41 to 14:11	37.7	20/10/2016 14:12 to 14:42

Signed .....   
(Authorised to sign as representative of Operator)

Date.....17/01/2017

Permit Number: EPR/BR9383ID/V008

Operator: Knauf Insulation Ltd

Facility: Queensferry Mineral Fibre Works

Form Number: Air1f

**Reporting of emissions to air for the year 2016**

**Point G, Mainline 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 <sup>3</sup>	6.1	19/10/2016 13:45 to 15:05	5.3	19/10/2016 15:10 to 16:30	8.8	19/10/2016 16:35 to 17:55
G	Volatile Organic Compounds as C	15 mg / m <sup>3</sup>	14.6	19/10/2016 13:25 to 13:55	13.2	19/10/2016 13:56 to 14:26	11.7	19/10/2016 14:27 to 14:57
G	Ammonia	10 mg / m <sup>3</sup>	0.73	19/10/2016 13:45 to 15:05	0.51	19/10/2016 15:10 to 16:30	0.75	19/10/2016 16:35 to 17:55
G	Formaldehyde	5 mg / m <sup>3</sup>	0.73	19/10/2016 11:43 to 12:14	0.71	19/10/2016 12:19 to 12:56	0.89	19/10/2016 13:01 to 13:33
G	Phenol	5 mg / m <sup>3</sup>	<0.57	19/10/2016 12:45 to 12:50	<0.57	19/10/2016 14:45 to 14:50	<0.57	19/10/2016 16:45 to 16:50
G	Amines	5 mg/m <sup>3</sup>	<1.9	19/10/2016 12:50 to 12:55	<1.9	19/10/2016 14:50 to 14:55	<1.9	19/10/2016 16:50 to 16:55

Signed .....   
(Authorised to sign as representative of Operator)

Date.....17/01/2017

Permit Number: EPR/BR9383ID/V008

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 1<sup>st</sup> January to 30<sup>th</sup> June 2016**

Emission Point	pH	Suspended Solids	COD	Sample Date	Sample Time
L3	6.98	<2	<7	09/02/2016	13:10
L4	7.81	<2	<7	09/02/2016	13:25
L5	7.86	8.5	14.9	09/02/2016	12:45
L6	7.99	4.5	17.4	09/02/2016	12:40

Signed ..... *Keaush*  
(Authorised to sign as representative of Operator)

Date.....17/01/2017

Permit Number: EPR/BR9383ID/V008

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 1<sup>st</sup> July to 31<sup>st</sup> December 2016**

Emission Point	pH	Suspended Solids	COD	Sample Date	Sample Time
L3	6.73	17.5	20.4	21/11/2016	12:05
L4	7.56	12	21.9	21/11/2016	12:15
L5	7.49	12	24.3	21/11/2016	13:45
L6	7.25	106	83.6	21/11/2016	14:00

Signed ..... *Keaush*  
(Authorised to sign as representative of Operator)

Date.....17/01/2017

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Facility: Queensferry Mineral Fibre Works

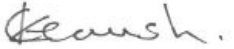
Form Number: Water1

**Reporting of performance indicators for the year 2016**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>Total hours operating with by-pass stack open &amp; blast air on</i>	0.08	0.40	0.01	0.01	0.00	0.02	0.36	0.03	0.14	0.03	0.00	0.00

Energy	Primary Energy Imported MWh
Total Energy	79,445,200

Water Source	Usage (m3/year)
Mains water	25750
Other water	
TOTAL WATER USAGE	25750

Signed .....   
(Authorised to sign as representative of Operator)

Date.....27/01/2017