



AIRTIGHT & NOISECHECK LIMITED

The Old Laundry, Bridge Street, Southwick, Hampshire, PO17 6DZ
Phone: 03450 666966 Email: info@airtightnoisecheck.co.uk

24HOUR NOISE IMPACT ASSESSMENT FOR

IBEX HOMES LTD
DRIVERS WHARF
NORTHAM ROAD
SOUTHAMPTON
HAMPSHIRE
SO14 0PF

SITE ADDRESS

EASTLEIGH HOUSE
BARTONS ROAD
HAVANT
HAMPSHIRE
PO9 5NA

TESTING DATE: 1st -2nd SEPTEMBER 2020



Acoustic Engineer:

Date: 1st – 2nd September 2020

Michael Vine

AIRTIGHT & NOISECHECK BUILDING ACOUSTIC TESTING

Contents

Customer Name.....	3
Site Address.....	3
Equipment Used.....	3
Measurement Procedure.....	3
Executive Summary.....	4
Assessment Criteria.....	5
Objective.....	6
Calibration.....	6
Site Layout & Microphone Locations.....	7
Weather Conditions.....	7
Results Table.....	8
Results Conclusion.....	8
Noise levels in absence of building works.....	9
Results Summary.....	9
Ventilation, Glazing, Façade & roof.....	10
Site Plan.....	11
Google Earth.....	12
Appendix.....	13
Raw Data.....	14-17

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

Customer Name:

Date: 1st – 2nd September 2020

Ibex Homes Ltd
Drivers Wharf
Northam Road
Southampton
Hampshire
SO14 0PF

Site Address:

Eastleigh House
Bartons Road
Havant
Hampshire
PO9 5NA

Acoustic Engineer:

Mr. Michael Vine

Norsonic Environmental Analyser 121 – Serial No 29809 Calibration due July 2022

Analyser complies with the following standards:

IEC 60651 type 1
IEC 60804 type 1
IEC 61260 class 1
IEC 225
ANSI S1.4-1985 type 1
ANSI1.43 -1997 type 1
ANSI S1.11-1986 order 3type1D
DIN 45 657
Norsonic Production Standard set for the Nor121

Measurement Microphone (Gras 40AF) – Serial No 51465 & (Nor 1225) serial no 72933 - Calibration due July 2022

Acoustic Calibrator - (Type 1251) – Serial No 31652, Calibration due July 2021

Measurement Procedure:

To assess the site in relation to possible noise sources for the proposed residential scheme comprising of 6 dwellings over 2 floors formed by material change of use.

A 24hour Noise impact assessment has been carried out on this site, and correspondence has been received from the local authority, with the following condition being stated:

Condition 9 – The acoustic mitigation measures to be employed with regard to the building envelope, including fenestration and ventilation, and between levels, shall meet BS8223:2014 standards as recommended for indoor ambient noise levels for dwellings, especially in relation to living rooms and bedrooms i.e. during the day (07:00 to 23:00) 35 dB L Aeq, 16 hour and at night (23:00 to 07:00) 30dB L Aeq, 8 hour for bedrooms.

The findings of the report will work towards achieving the levels listed above.

AIRTIGHT & NOISECHECK ACOUSTIC TESTING

Assessment Criteria:

The NPPF came into effect in March 2012 and was updated in Feb 2019. It replaced other documents such as PPG24. The NPPF provides a number of objectives and aims that are directed towards avoiding significant adverse impacts and reducing others on quality of life and health. This document states that:

The planning system should contribute to and enhance the natural and local environment by: preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability.

The NPSE (Noise Policy Statement for England) states the following aims with respect to noise policy:

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of the Government policy on sustainable development:

*avoid significant adverse impacts on health and quality of life;
mitigate and minimise adverse impacts on health and quality of life; and
where possible, contribute to the improvement of health and quality of life.*

BS8233: 2014 'Guidance of Sound Insulation and Noise Reduction for Buildings' defines a range of ambient noise levels for design purposes, in order that appropriate conditions are achieved in certain internal environments. These internal requirements are listed in the table below.

BS8233: Table 5 – Indoor Ambient noise levels in spaces when they are unoccupied.

Activity	Location	0700-2300	2300-0700
Resting	Living Rooms	35dB LAeq,16hour	-
Dining	Dining Room/Area	40dB LAeq,16hour	-
Sleeping (daytime resting)	Bedroom	35dB LAeq,16hour	30dB LAeq,8hour

The noise sources apparent at the site is the activity associated with the road traffic to the North. There is also a garden centre located to the West

Pro PG: Planning & Noise 2017 (Professional Practice Guidance on Planning & Noise) issued by ANC/IOA/CIEH has also been referenced. This document came into effect in May 2017. This document is a guidance document and not a Code of Practice or British Standard.

This document states that there is a staged approach to such schemes, with the first phase being a risk assessment undertaken at the site, followed by a detailed assessment taking into account the recommended internal values by measuring the external noise levels.

NOEL – No Observed Effect Level This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to noise.

LOAEL – Lowest Observed Adverse Effect Level This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level This is the level above which significant adverse effects on health and quality of life occurs.

AIRTIGHT & NOISECHECK ACOUSTIC TESTING

Executive Summary:

Airtight & Noisecheck Ltd were instructed by Ibex Homes Ltd to undertake a Noise Impact Assessment (NIA) at Eastleigh House, Bartons Road, Havant. A planning application has been made to convert the listed building into 6 x residential dwellings split over two floors.

The survey was undertaken for a 24hour period using two microphone locations. The microphone locations were positioned on the Northwest façade to measure road traffic noise and the Southern façade. The following noise sources were in operation

1. Road traffic noise
2. General activity within the site & garden centre located to the West

The conclusions of this report illustrate that the noise associated with the site is negligible to low and thus will not have an adverse impact on the proposed residential dwellings. The building is located in the middle of a residential area and screened from the road. There are purpose built dwellings being built to the South and a purpose built development recently completed to the North.

Ground works were in operation on the site to the South and these elevated the measured levels, in the absence of these works the noise levels dropped considerably and thus reduced the impact even further.

It is clear that in the absence of these ground works and building works taking place that the site falls into the negligible levels for noise and as such noise should not be considered a reason for refusal. The night time levels indicate that the internal criteria can be achieved with a window open (assuming a sound reduction of 15dB for an open window) and in the absence of the ground works this is evident for the day time to, therefore the acoustic criteria and suitable ventilation (avoidance of overaerating) can be achieved currently and no further works are required to the windows.

The day time levels are currently higher than the usually should be due to the building works taking place to the South, but after inspection of the levels once these works cease indicate that the internal levels can also be achieved with an open window. This is illustrated in the results section of this report.

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

Acoustic Design Statement:

The site is situated in a residential area, with Bartons Road to the front (North) beyond the newly built residential development. There are new dwellings located to the South, a garden centre further to the West & residential gardens to the East. The measured levels are very low and the necessary noise criteria should be achieved by the current glazing (noise levels currently achieved with an open window), there will be noise sensitive rooms located on all facades of the proposed scheme. The client will take steps and implement mitigation measures to ensure the impact of the external & internal noise should not have an adverse impact on the future residential dwellings. These steps include:

1. Thermal mass already offered by the density of the current building facade to improve overheating – purge ventilation will be acceptable
2. Purge ventilation will ensure a good thermal comfort & a balance between the internal noise levels & overheating
3. If necessary, secondary glazing could be applied – levels indicate this will not be required

The initial risk assessment has indicated that the day time noise levels fall into the low to negligible category (in the absence of building works), & the night time levels fall into the low category indicating that noise should not be an issue when determining the planning application. Pro PG states that *'At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development'*. For sites that fall into the negligible category, the following text applies *'These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds'*.

If the mitigation measures are implemented, then there is no reason to suggest that the future occupants of the scheme cannot be adequately protected from the external noise emissions.

1 Objective:

1.1 To demonstrate that the noise associated with the immediate area will not have an adverse impact on the proposed residential scheme to be located within the listed building. A planning application has been made and approved to convert the listed building into 6 x residential dwellings over two floors. The building is located to the rear of a purpose built development facing Bartons Road and within a large parcel of land. It is screened from the noise sources in operation in the vicinity.

2 Calibration:

2.1 The measurement microphone was calibrated before and after testing in the measurement location and there were no drifts recorded during the assessments.

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

3 Site Layout & Microphone Position:

3.1 Bartons Road is located to the North of Havant Town Centre. It is a local road serving the local networks. The immediate area is predominantly residential with some commercial uses located close by.

3.2 Eastleigh House is a large detached listed building set back from Barons Road with a newly built residential screen separating it from the road network. The immediate area is predominantly residential with new houses built to the North & South, existing dwellings and gardens to the East. There is a garden centre located further to the West. The building is located on a large parcel of land.

3.3 The measurement microphones were located:

- 1- On the Northwest corner of the building – It was at least 4m from the ground and only 1m from the building façade so a -3dB reduction will be applied to the figures.
- 2- Southern façade of the building – It was at least 4m from the ground and only 1m from the building façade so a -3dB reduction will be applied to the figures.

4 Weather Conditions:

4.1 The weather was dry & hot during the measurement procedure; the temperature ranged between 15-23 degrees and there was some light cloud.

5 Measurement Duration:

5.1 The continuous measurements were taken for 24hour period, there was building work in operation on the site to the North which clearly increased the day time noise levels. As soon as this work stopped the noise levels reduced and offered a fair reflection of the anticipated future values. For thoroughness both sets of figures have been included.

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING**6 Results – proposed dwellings:**

6.1 The purpose of this measurement was to establish the levels associated with the immediate area. The levels will be compared to the necessary British Standards & relevant documents, also some bespoke measurements will be adopted.

LAeq 16hour & 8hour Noise Levels:

Mic Location	LAeq 16hour Value	Reduction needed for BS8233 compliance	LAeq 8hour Value	Reduction for BS8233 compliance
Northwest - ML1	52dBA	17dB	40dBA	10dB
Southern – ML2	53dBA	18dB	40dBA	10dB

Please Note – The figures above include a -3dB correction due to reflection of the façade. Also the day time levels are increased due to the building works undertaken. The levels in the absence of this work is shown later in the report.

7 Results Conclusion:

7.1 The tables listed above clearly indicate the required sound reduction values at the proposed site. It is clear to see that the measured levels are relatively low and providing suitable mitigation measures are applied to the necessary facades the required internal criteria can be achieved.

7.2 Based on the measured noise levels, the proposed mitigation measures, the location of the development and the type of noise apparent it is anticipated that the noise will fall between The NOEL value (No adverse effect level) and the LOAEL (Lowest observed adverse effect level) and as such the noise should not have a detrimental effect on the future residents providing adequate measures are implemented to the building fabric & elements. For noise sources at the LOAEL it is anticipated that the noise will be noticeable but not be intrusive if suitable mitigation measures are implemented to the development.

7.3 Based on the measured levels and assuming a glazing specification offering a sound reduction of 30dBA (the current glazing is 4mm single pane glazing) is installed the following internal levels would be achieved:

Room	External Level	Sound Reduction of windows	Internal Level	Criteria Met
Lounge	52-53dBA	30dB	23dBA	Yes
Bedroom – LAeq	40dBA	30dB	1dBA	Yes

7.5 The levels above indicate that the internal levels can be achieved with the windows closed. The table below shows the calculated single figure values of the habitable rooms with windows open. Section 2.30 and Figure 2 of the Pro PG document states that the internal guidelines of BS8233: 2014 can be relaxed by 5dBA (40dBA LAeq 16hour and 35dBA LAeq 8hour) when the dwellings are necessary or desirable and also that residents will accept a slight increase in noise levels to ensure natural ventilation. A relaxation of 5dBA will still ensure a reasonable standard of living. These levels of relaxation can be achieved at the site for the day time & night period assuming a -15dB reduction for an open window. This does not take into account the reduction in noise once the building works stop at the neighboring site.

Room & period	External Value	Reduction offered by open window	Calculated Internal Value
Lounge - Day	52-53dBA	-15dB	37-38dBA
Bedroom - Night	40dBA	-15dB	25dBA

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING**Noise Levels once the building works stop:**

7.6 The building works stopped at circa 1700hrs. The table below shows the $L_{Aeq\ 1hour}$ values for the day time period between 1700-2300hrs. This is then averaged to show the calculated figures in the absence of the building works.

Time Period	ML 1	ML 2
1700-1800	50	44
1800-1900	47	43
1900-2000	46	44
2000-2100	46	43
2100-2200	42	40
2200-2300	44	41
Average	47dBA	43
Sound Reduction required	12dBA	13dBA

7.7 It is clear to see that once the building works stopped, the noise levels reduced dramatically and that the level of sound reduction required is less than the 15dBA offered by an openable window. Therefore, it is clear that purge ventilation offered by openable windows will be suitable for this site location and that noise will not have an adverse impact on the future residents.

8 Results Summary:

8.1 The findings of this survey indicate that the noise associated with the road traffic and immediate area will not have an adverse impact on the proposed residential dwellings to be located within the listed building.

8.2 Planning ProPG states that a good acoustic design process is a vital part of new developments. The client has taken steps to ensure that the future occupants are protected from the noise source, these steps include:

1. Thermal mass already offered by the density of the current building facade to improve overheating – purge ventilation will be acceptable
2. Purge ventilation will ensure a good thermal comfort & a balance between the internal noise levels & overheating
3. If necessary, secondary glazing could be applied – levels indicate this will not be required

8.3 The site is exposed to very low levels of noise and thus the noise will not have an adverse impact on the proposed dwellings. The current level of glazing will ensure the necessary internal criteria is met with windows closed, and also the levels should be achieved with windows open indicating that the dwellings will not be affected by overheating and will be adequately ventilated naturally by purge ventilation.

8.4 The 24hour assessment and ProPG Noise risk assessment indicates that the day time & night time ($L_{Aeq\ 16hour}$) falls into the negligible to low category and as such the document states *'These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds'*. For negligible sites and *'At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development'* for sites falling into the low category.

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING**9 Building Specifications:**

9.1 It is anticipated that the sound reduction of the windows can be met by the installation of acoustic trickle vents. These are vents that offer high levels of sound reduction whilst still offering ventilation to residential dwellings. The products listed below should offer the necessary sound reduction for the site.

Product	Sound Reduction - Open	Sound Reduction - Closed
Simon Acoustic Vent EHA	36dB	38dB

9.2 Façade Detail – The current façade is believed to be something similar to: - Aggregate block cavity wall, minimum 100mm blocks (minimum density 1350kg/m³), minimum 75mm cavity between leaves, finished with 13mm plaster. This system should achieve a sound reduction of between 50-52dB DnT,w + Ctr 'Code of Practice BS8233: 2014, Page 60 – Table E.1B – Airborne sound insulation of walls and partitions'. Also a cavity wall system comprising of 7N concrete blocks (two separate frames), have a sound reduction of approximately 53dB (predicted weighted sound reduction index values of Celcon Blockwork – from H&H Celcon).

9.3 Roof Detail – The current roof detail is believed to be similar to: Tiles on felt, pitched roof with 100mm mineral wool on plasterboard ceiling. This system should achieve a sound reduction of 43dB Rw 'BS8233: 2014, page 41 - Table 8 - The sound insulation of roofs'.

9.4 Windows – The current windows are believed to be 4mm single pane glazing. These offer a sound reduction of 30dBA which will meet the required sound reduction levels.

Possible Units	Thickness	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	Overall reduction
4mm glass	4mm	20	22	28	33	34	28	30dB

9.5 The client has stated that they would install secondary glazing to the building if required, however it does not appear that is required.

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

Site Plans:





AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

Google Maps:



AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

APPENDIX

Continuous equivalent noise level, LAeq — The steady noise level (usually in dBA) which, over the period of time under consideration, contains the same amount of sound energy as the time varying noise.

LAm_{ax} - The maximum value that the A-weighted sound pressure level reaches during a measurement period.

dB (A) — The A-weighted sound pressure level.

Decibel (dB) — A unit used for many acoustic qualities to indicate the level of sound with respect to a reference level.

A-weighting — A frequency weighting that relates to the response of the human ear.

Background noise level — Prevailing noise level in a specified environment measured in the absence of the noise being studied.

Habitable Room – A room used for sleeping or recreation/relaxation

D_{ne,w} Weighted element normalised level difference – A single-number quantity which characterises the airborne sound insulation of a small building elements.

EPU – Environmental Protection Unit

R_w Weighted sound reduction index – A single-number quantity which characterises the airborne sound insulation of a material or building element measured in the laboratory.

LA₁₀ – The A-weighted noise level exceeded for 10% of the measurement duration.

LA₉₀ - The A-weighted noise level exceeded for 90% of the measurement duration.

British Standards & associated documents:

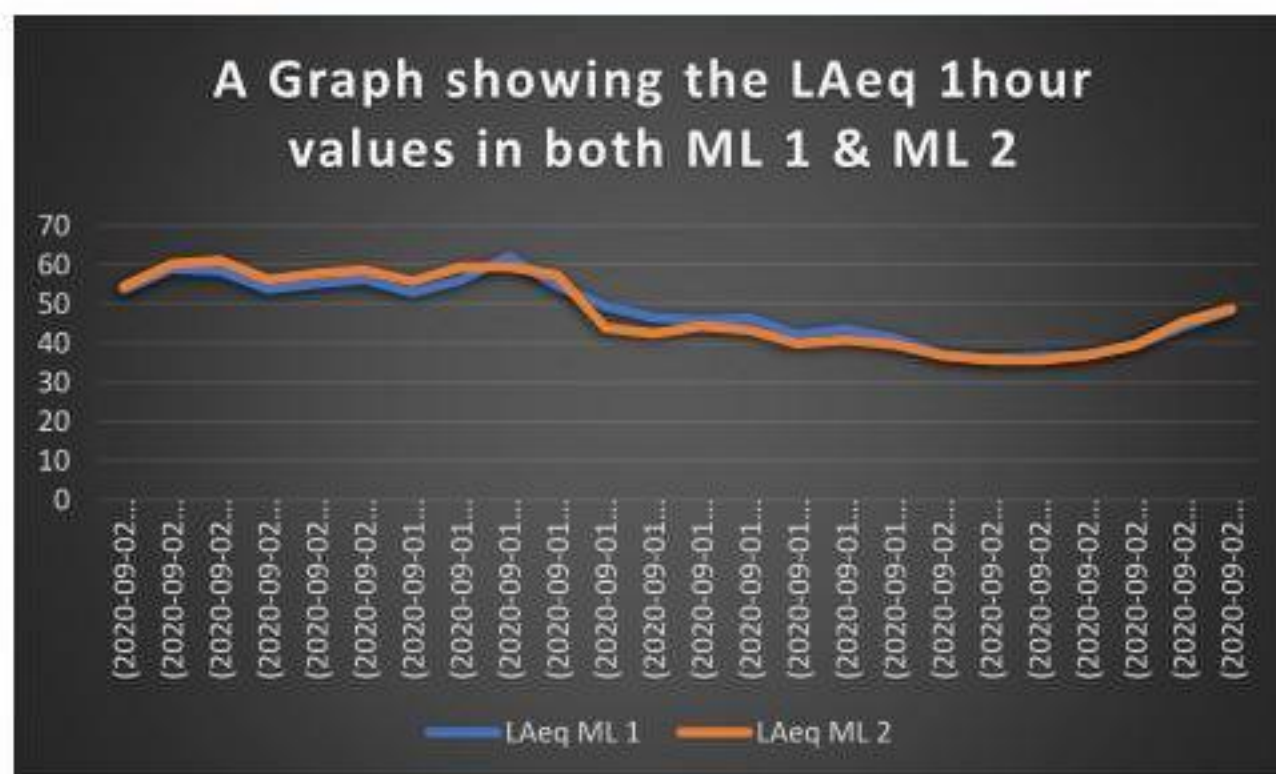
Code of Practice: BS8233: 2014 - Sound Insulation and noise reduction for buildings.

World Health Organization (WHO) - Guidelines for Community Noise.

Pro PG – Planning & Noise, Residential Development – 2017

AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

Time:	LAeq ML 1	LAeq ML 2
(2020-09-02 07:00:00.410)	53.7	54.5
(2020-09-02 08:00:00.410)	58.9	60.3
(2020-09-02 09:00:00.410)	58.5	61.1
(2020-09-02 10:00:00.410)	53.8	56.2
(2020-09-02 11:00:00.410)	55.3	57.8
(2020-09-02 12:00:00.410)	56.3	58.6
(2020-09-01 13:00:00.410)	53	55.8
(2020-09-01 14:00:00.410)	56.1	59.4
(2020-09-01 15:00:00.410)	62.2	59.5
(2020-09-01 16:00:00.410)	54.7	57.4
(2020-09-01 17:00:00.410)	49.5	43.9
(2020-09-01 18:00:00.410)	46.5	42.5
(2020-09-01 19:00:00.410)	45.9	44.4
(2020-09-01 20:00:00.410)	46.3	43.4
(2020-09-01 21:00:00.410)	42.2	39.9
(2020-09-01 22:00:00.410)	43.6	40.9
(2020-09-01 23:00:00.410)	41.3	39.7
(2020-09-02 00:00:00.410)	37.1	36.8
(2020-09-02 01:00:00.410)	36	35.8
(2020-09-02 02:00:00.410)	36.5	35.6
(2020-09-02 03:00:00.410)	36.9	37
(2020-09-02 04:00:00.410)	39.6	39.5
(2020-09-02 05:00:00.410)	44.3	45.5
(2020-09-02 06:00:00.410)	48.5	48.8



AIRTIGHT & NOISECHECK LIMITED ACOUSTICS TESTING

Column1	LAeq ML 1	LAeq ML 2
(2020-09-02 07:00:00.410)	51.1	50.6
(2020-09-02 07:15:00.410)	51.6	50.8
(2020-09-02 07:30:00.410)	50.9	52.7
(2020-09-02 07:45:00.410)	57.3	58.5
(2020-09-02 08:00:00.410)	58.4	59.8
(2020-09-02 08:15:00.410)	57.5	60.4
(2020-09-02 08:30:00.410)	59.9	60.5
(2020-09-02 08:45:00.410)	59.2	60.4
(2020-09-02 09:00:00.410)	60.7	62.9
(2020-09-02 09:15:00.410)	60.4	61.7
(2020-09-02 09:30:00.410)	56.9	59.6
(2020-09-02 09:45:00.410)	50.9	59
(2020-09-02 10:00:00.410)	48	53.3
(2020-09-02 10:15:00.410)	52.8	54.9
(2020-09-02 10:30:00.410)	47.8	47.5
(2020-09-02 10:45:00.410)	58.2	60.3
(2020-09-02 11:00:00.410)	58.3	58.9
(2020-09-02 11:15:00.410)	53	57.8
(2020-09-02 11:30:00.410)	52.7	57.8
(2020-09-02 11:45:00.410)	54.7	55.9
(2020-09-02 12:00:00.410)	54	53.8
(2020-09-02 12:15:00.410)	53	57.9
(2020-09-02 12:30:00.410)	59.9	62.3
(2020-09-02 12:45:00.410)	54.5	55.1
(2020-09-01 13:00:00.410)	48.7	52.8
(2020-09-01 13:15:00.410)	46.3	45.4
(2020-09-01 13:30:00.410)	52.5	54.2
(2020-09-01 13:45:00.410)	57	60.2
(2020-09-01 14:00:00.410)	57.6	60
(2020-09-01 14:15:00.410)	56.3	59.4
(2020-09-01 14:30:00.410)	52.7	58.4
(2020-09-01 14:45:00.410)	56.6	59.7
(2020-09-01 15:00:00.410)	62.3	59.5
(2020-09-01 15:15:00.410)	64.8	59.4
(2020-09-01 15:30:00.410)	61.7	60.5
(2020-09-01 15:45:00.410)	57.5	58.2
(2020-09-01 16:00:00.410)	59	62.3
(2020-09-01 16:15:00.410)	53.9	55.6
(2020-09-01 16:30:00.410)	48.7	49.1
(2020-09-01 16:45:00.410)	48.3	47.1
(2020-09-01 17:00:00.410)	49.7	42.2
(2020-09-01 17:15:00.410)	47.9	42.2
(2020-09-01 17:30:00.410)	49.5	46.4

Airtight & Noisecheck Ltd

(2020-09-01 17:45:00.410)	50.4	43.4
(2020-09-01 18:00:00.410)	47.1	42.1
(2020-09-01 18:15:00.410)	47.5	42.8
(2020-09-01 18:30:00.410)	45.6	42.5
(2020-09-01 18:45:00.410)	45.7	42.5
(2020-09-01 19:00:00.410)	47.7	46.5
(2020-09-01 19:15:00.410)	44.6	43.5
(2020-09-01 19:30:00.410)	46.4	43.7
(2020-09-01 19:45:00.410)	44.1	42.9
(2020-09-01 20:00:00.410)	44.5	42.7
(2020-09-01 20:15:00.410)	43.7	42.5
(2020-09-01 20:30:00.410)	47.4	45.2
(2020-09-01 20:45:00.410)	48	42.8
(2020-09-01 21:00:00.410)	43.6	40.3
(2020-09-01 21:15:00.410)	42.2	40.7
(2020-09-01 21:30:00.410)	41.4	39.4
(2020-09-01 21:45:00.410)	41.1	38.8
(2020-09-01 22:00:00.410)	42.5	40.5
(2020-09-01 22:15:00.410)	44.6	41.9
(2020-09-01 22:30:00.410)	45	41.3
(2020-09-01 22:45:00.410)	41.4	39.7
(2020-09-01 23:00:00.410)	40.8	38.4
(2020-09-01 23:15:00.410)	40.8	40
(2020-09-01 23:30:00.410)	40.8	40.1
(2020-09-01 23:45:00.410)	42.7	40.1
(2020-09-02 00:00:00.410)	37	35.8
(2020-09-02 00:15:00.410)	38.4	38.2
(2020-09-02 00:30:00.410)	37	36.5
(2020-09-02 00:45:00.410)	35.6	36.6
(2020-09-02 01:00:00.410)	37.1	35.8
(2020-09-02 01:15:00.410)	35.2	35.3
(2020-09-02 01:30:00.410)	35.5	36.3
(2020-09-02 01:45:00.410)	36	35.7
(2020-09-02 02:00:00.410)	37.9	36.7
(2020-09-02 02:15:00.410)	36.8	35.9
(2020-09-02 02:30:00.410)	35.2	34.3
(2020-09-02 02:45:00.410)	35.8	34.8
(2020-09-02 03:00:00.410)	35.8	35.5
(2020-09-02 03:15:00.410)	37.4	36.9
(2020-09-02 03:30:00.410)	36.1	37
(2020-09-02 03:45:00.410)	37.9	38.2
(2020-09-02 04:00:00.410)	38.9	38.1
(2020-09-02 04:15:00.410)	39.9	40.2
(2020-09-02 04:30:00.410)	40.2	39.7
(2020-09-02 04:45:00.410)	39.3	39.8
(2020-09-02 05:00:00.410)	41.8	42

(2020-09-02 05:15:00.410)	43.5	44.2
(2020-09-02 05:30:00.410)	44.6	44.7
(2020-09-02 05:45:00.410)	46.1	48.4
(2020-09-02 06:00:00.410)	47.5	47.3
(2020-09-02 06:15:00.410)	47.1	48.8
(2020-09-02 06:30:00.410)	48.5	49.1
(2020-09-02 06:45:00.410)	50.2	49.7

