

Southampton Airport – Runway Extension (Project Sun)

			AGL and Electrical: Install approach lights: Install solar powered alarm for oil interceptor, Landscaping: Netting and Battering	9T Dumper	76	C4.4	1	80%	75.0	
				140 Roller	74	C2.39	1	30%	68.8	
				Coring Rig	76	C3.17	1	30%	70.8	
				Sweeper	76	C4.90	1	80%	75.0	
				Lighting	62	Man.	4	100%	68.0	
				Tractor	80	C4.74	1	60%	77.8	82.0

07-Jul	10-Jul	12 12a	AGL and Electrical: Install secondary leads, plugs, sockets, Pavement: Low Blast Protection to perimeter track : Grooving Landscaping: Topsoiling	14t Excavator	70	C2.7	1	80%	69.0	
				9T Dumper	76	C4.4	1	80%	75.0	
				140 Roller	74	C2.39	1	30%	68.8	76.8
				Grooving machine	80	C4.93	1	80%	79.0	
				Sweeper	76	C4.90	1	80%	75.0	
				Lighting	62	Man.	4	100%	68.0	
				Tractor	80	C4.74	1	80%	79.0	83.9

11-Jul	17-Jul	12	Electrial: Install new AGL units and approach lights, Pavement: Low Blast Protection to perimeter track, Line Marking and Signs: Paint New Line Marking							
				Coring Rig	76	C3.17	1	30%	70.8	
				Lighting	62	Man.	4	100%	68.0	
				Sweeper	76	C4.90	1	80%	75.0	77.0

18-Jul	19-Jul	4	Electrical: Colour Code changes to runway centreline: Decommission and remove reductant AGLs, Line Marking and Signs: Install New Road Signs							
				8T Excavator	71	C4.17	2	80%	73.0	
				9T Dumper	76	C4.4	1	80%	75.0	
				Lighting	62	Man.	4	100%	68.0	
				Trench compactor	80	C2.41	1	10%	70.0	78.3

26-Jul	08-Aug	15	Line Marking and Signs: Break out existing tum pad	2m Planer	82	C5.7	1	60%	79.8	
				14T Excavator	70	C2.7	1	60%	67.8	
				9T Dumper	76	C4.4	1	60%	73.8	
				14T Roller	80	C5.21	1	30%	74.8	
				Lighting	62	Man.	4	100%	68.0	
				Sweeper	76	C4.90	1	30%	70.8	82.4

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Appendix 5: Predicted Noise Levels and Impact Assessment

Construction noise levels have been predicted at six locations, representative of sensitive receptors in the immediate vicinity of the works. The distances of receptors have been taken from the closest approach of each activity location to each of the receptors. The receptor locations are shown on the following plan.

Southampton Airport Runway Extension – Selected Noise Sensitive Receptors



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The receptor locations are identified as follows:

- | | |
|--------------------|------------------------|
| 1 39 Campbell Road | 4 346 Southampton Road |
| 2 98 Campbell Road | 5 68 Doncaster Road |
| 3 73 Campbell Road | 6 6 Chestnut Avenue |

In order to assess the potential impact of construction noise, a survey of ambient noise levels was carried out at the same receptor locations, between 23:00 and 05:00 on 18th to 20th January 2023. A 15-minute sampled measurement was taken during each hour at each location over the two nights. The lowest reading during each hour was used to represent the lowest ambient $L_{Aeq,1hr}$ at each location.

The noise measurements were carried out using a SVAN955 sound level analyser Serial 27330 and an NC-74 Calibrator Serial 34167512, which fulfil IEC 61672 Class 1 and are traceable to calibration under BS7580-1:1997. The meter was calibrated before and after the measurements and no significant drifting of the calibration signal was observed. Weather conditions on both nights were cold with no wind. The results of the measurements are listed below:

Position	Date & Time	LAFmax [dB]	LAeq,15min [dB]	LA90 [dB]
6	18/01/2023 23:04	74.1	66.1	45.3
6 Chestnut Avenue	19/01/2023 00:01	75.5	60.7	43.5
	19/01/2023 00:56	80.6	62.6	43.6
	19/01/2023 01:53	75.1	60.8	44.3
	19/01/2023 02:50	81.5	57.4	39.4
	19/01/2023 03:50	75.8	58.8	38.2
5	18/01/2023 23:23	63.8	47.6	45.0
68 Doncaster Road	19/01/2023 00:19	62.1	46.8	41.5
	19/01/2023 01:16	59.8	46.3	41.4
	19/01/2023 02:13	59.1	48.6	43.1
	19/01/2023 03:10	62.3	46.3	40.5
	19/01/2023 04:09	59.9	46.1	42.2
4	18/01/2023 23:41	80.6	66.2	43.4
346 Southampton Road	19/01/2023 00:37	79.0	64.9	44.6
	19/01/2023 01:34	85.2	63.6	39.1
	19/01/2023 02:31	86.1	68.1	41.8
	19/01/2023 03:30	81.1	59.3	38.7
	19/01/2023 04:28	82.5	65.3	40.2
1	19/01/2023 23:07	59.6	51.7	48.7
39 Campbell Road	20/01/2023 00:06	65.7	51.0	48.7

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Position	Date & Time	LAFmax [dB]	LAeq,15min [dB]	LA90 [dB]
	20/01/2023 01:04	56.3	49.4	48.3
	20/01/2023 02:01	74.3	54.2	48.0
	20/01/2023 03:04	67.8	52.0	49.3
	20/01/2023 04:01	52.4	50.4	49.3
2	19/01/2023 23:26	56.5	49.1	47.3
98 Campbell Road	20/01/2023 00:25	59.4	50.2	48.4
	20/01/2023 01:22	53.8	49.5	48.4
	20/01/2023 02:21	60.1	44.4	42.0
	20/01/2023 03:23	57.7	45.1	43.0
	20/01/2023 04:19	56.6	48.7	45.4
3	19/01/2023 23:46	73.8	46.3	42.0
73 Campbell Road	20/01/2023 00:44	50.1	42.9	40.3
	20/01/2023 01:42	71.9	45.1	40.0
	20/01/2023 02:40	62.2	41.0	38.2
	20/01/2023 03:41	48.8	39.6	38.3
	20/01/2023 04:38	55.2	41.2	39.8

Construction noise levels were predicted using the methodology described in BS5228-1. This takes account of distance attenuation and partial screening by intervening buildings, landforms or structures. The noise level calculations were carried out for each activity shown in Appendix 7, taking the shortest distance from the nearest work location to each receptor. The results obtained are shown below:

Predicted Construction Noise Levels, LAeq,1hr							
From	To	Receptor Location					
		1	2	3	4	5	6
30-Jan	02-Feb	35.8	36.4	31.3	37.6	33.6	36.0
13-Feb	17-Feb	37.1	38.4	34.1	37.9	34.7	36.1
22-Feb	23-Feb	36.0	36.9	32.7	40.4	36.6	37.7
24-Feb	06-Mar	37.1	38.4	34.1	40.3	36.6	37.6
07-Mar	10-Mar	39.1	40.4	36.1	42.3	38.6	39.6
13-Mar	22-Mar	39.2	42.2	39.5	42.3	38.6	39.7
23-Mar	30-Mar	41.6	42.9	39.7	46.2	41.0	45.3
31-Mar	19-Apr	47.5	46.1	41.2	45.3	41.6	45.9
20-Apr	26-Apr	48.5	47.2	42.3	46.3	42.6	46.9
27-Apr	09-May	49.0	48.0	40.8	46.6	43.2	45.8
10-May	19-May	47.2	47.8	42.7	48.9	45.0	47.3

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Predicted Construction Noise Levels, LAeq,1hr							
From	To	Receptor Location					
		1	2	3	4	5	6
22-May	26-May	45.6	46.2	41.7	47.3	43.4	45.7
29-May	02-Jun	40.1	40.7	35.6	41.9	37.9	40.3
05-Jun	09-Jun	41.8	42.4	37.3	43.5	39.6	41.9
12-Jun	16-Jun	42.6	43.2	38.7	44.4	40.4	42.8
19-Jun	23-Jun	32.2	32.9	28.8	36.0	31.6	33.7
29-Jun	06-Jul	38.6	38.8	34.1	40.7	37.1	38.7
07-Jul	10-Jul	40.5	40.8	35.9	48.7	42.3	46.0
11-Jul	17-Jul	33.6	34.2	29.0	35.3	31.3	33.7
18-Jul	19-Jul	33.3	34.0	29.8	37.1	32.7	34.7
26-Jul	08-Aug	34.9	35.7	32.8	39.7	37.5	36.6

The results do not give a clear indication of how the noise levels vary with time as the duration of each activity ranges from 2 days to 20 days. Based on the daily results, an average value was determined for each week of the construction period.

In addition, an indication of the significance of the potential impact of the predicted noise levels was obtained using the method described in BS5228 Annexe E3.3. This states that noise levels generated by construction activities are deemed to be significant if the total noise (pre-construction ambient plus construction noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to a lower cut-off value of 45 dB LAeq, from construction noise alone, for the night-time period

The table below indicates the week to week variation of predicted noise levels, clarifying the periods when the highest noise levels are likely to occur. The significance threshold has been determined for each receptor based on the lowest measured ambient noise level and the weeks where a significant effect might occur are highlighted in yellow.

Average weekly predicted night time construction noise levels, LAeq,1hr dB - Significance assessed to BS5228 Annexe E3.3						
Receptor	1	2	3	4	5	6
Week Commencing	39 Campbell Road	98 Campbell Road	73 Campbell Road	346 Southampton Road	68 Doncaster Road	6 Chestnut Avenue
2023						
30-Jan	36	36	31	38	34	36
06-Feb						
13-Feb	37	38	34	38	35	36
20-Feb	36	37	33	40	37	38
27-Feb	37	38	34	40	37	38
06-Mar	39	40	36	42	38	39
13-Mar	39	42	40	42	39	40
20-Mar	40	42	40	44	40	42

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Average weekly predicted night time construction noise levels, LAeq,1hr dB - Significance assessed to BS5228 Annexe E3.3						
Receptor	1	2	3	4	5	6
Week Commencing	39 Campbell Road	98 Campbell Road	73 Campbell Road	346 Southampton Road	68 Doncaster Road	6 Chestnut Avenue
27-Mar	43	44	40	46	41	45
03-Apr	47	46	41	45	42	46
10-Apr	47	46	41	45	42	46
17-Apr	48	47	42	46	42	46
24-Apr	49	48	42	46	43	46
01-May	49	48	41	47	43	46
08-May	48	48	42	48	44	47
15-May	47	48	43	49	45	47
22-May	46	46	42	47	43	46
29-May	40	41	36	42	38	40
05-Jun	42	42	37	44	40	42
12-Jun	43	43	39	44	40	43
19-Jun	32	33	29	36	32	34
26-Jun	39	39	34	41	37	39
03-Jul	39	39	34	42	38	40
10-Jul	35	36	30	38	34	36
17-Jul	33	34	30	36	32	34
24-Jul	35	36	33	40	37	37
31-Jul	35	36	33	40	37	37
07-Aug	35	36	33	40	37	37
Lowest Ambient (Night) LAeq,1hr	50	44	40	59	46	59
Significance Threshold LAeq,1hr	53	47	43	62	49	62
Threshold exceeded						

The predicted construction noise levels show that the overall impact is likely to be low, apart from a period of approximately 1 month at the rear façade of properties on Campbell Road which face the works.

The exceedance is not considered likely to cause major disturbance to residents as the external level of 49dB would be reduced to approximately 29dB internally through a closed window and would be less intrusive. The noise would be

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clearly perceptible through an open window but provided residents are made aware of the timing and duration of this stage of the works, the impact should be minimised.

During this period special attention to meeting the BPM requirements will be made by the contractor.

Appendix 6: Proposed Steps to Minimise Noise and Vibration

It is essential that all Contractors working on the Runway Extension Site are aware of and implement the Best Practicable Means for the control of construction noise and vibration. In particular, the following steps are relevant to this Application to control noise and vibration:

The following specific actions will be taken to minimise noise generation:

- Reversing alarms will be required to ensure the safety of the workforce; all plant will be fitted with broadband reversing alarms which provide suitable warning to staff whilst emitting significantly lower noise levels and of a pitch which is not intrusive to our neighbours.
- Modern Silenced well-maintained equipment fitted with efficient mufflers or acoustic covers will be used. All relevant plant and equipment will meet the noise limit and noise marking requirements prescribed by the noise emission in the environment by equipment for use outdoors regulation 2001 implementing the EU directives 2001/14/EC.
- Equipment will be shut down when not in use; this will also save fuel and reduce emissions.
- Handling materials in a manner that minimises noise
- Engine compartments will be closed when equipment is in use.
- Plant and equipment will be examined on a daily basis, for defects, prior to the start of works and defective plant will not be used
- Within the site compound, semi-static equipment, including any generators, will be sited so as to be screened the line of sight to the nearest residential receptors.
- The programme for the work has to be carried out during the night time shifts (22:00 to 06:00) requiring special vigilance to avoid unnecessary noise
- All staff on site will receive an induction from the principal contractor where they will be informed of their duties to working with these BPM.
- Communication between site staff will be in hushed tones and with the use of back-to-back radios, staff will be reminded that the use of radios, shouting and swearing is totally unacceptable. The solitary exception to this is in the event of an emergency.
- Noise levels will be monitored during the early stages of the main works if requested by the Council. If measured levels exceed the predicted levels, steps will be taken to find the cause and remedial action taken.
- If complaints are received by the contractor or the Council then further measurements will be undertaken. If this occurs, a site diary will record information at the time of the complaint, relating to weather, activities taking place, specific noisy works as well as any external noise from other environmental sources. The Principal Contractor will also maintain a site diary.
- The procedure for reporting complaints or for obtaining information is described in Section 3 on community liaison.
- Deliveries to site will be arranged during daytime hours.
- Notification letters will be hand delivered to sensitive noise receptors providing details of works that are scheduled take place.
- All temporary lighting rigs will be installed with the light source pointing downwards and away from residential areas.

Appendix 7: Monitoring Regime

Monitoring noise levels during construction is not likely to be required on a permanent basis as the potential impacts have been assessed as low. However, provision for monitoring should be made in order to respond to requests from the local Council. This may be regarding complaints or demonstrating compliance with any noise limitations imposed within planning or codes of construction practice.

Noise measurements should be carried out with a Class 1 Sound Level Meter, as specified in BS 7580-1:1997, recording measurements for 10 or 15-minute periods, depending on the variability of the sources. Noise measurements would normally be carried out at a position on the site boundary from which the noise level at a complainant can be assessed. Similarly, a boundary position would be used when assessing compliance with noise limits. The following information should be recorded for each measurement:

- The measured values of L_{Aeq} and, where appropriate, $L_{A(max)}$, together with details of the appropriate time periods
- Details of the instrumentation and system calibration data
- Weather conditions at the time of measurement
- Plan of the site and neighbourhood showing plant in use at the time of measurement
- Time and date of measurement and competency of person carrying out the measurement

Appendix 8: Complaints Record

Noise complaints must be recorded in a diary maintained by the Principal Contractor. These may be received through the SitePodium App or by telephone directly from members of the public or indirectly from the Local Authority, usually through environmental health officers.

Each complaint should be recorded noting the following details:

- Name, address and phone or email of the complainant
- The date(s) and times on which the noise occurred
- Inside or outside the dwelling
- A description of the noise
- The apparent location of the source
- The date and type of initial response (phone, letter, email)
- Investigation - possible location/cause of source
- Action – if source identified, type of mitigation needed, report back to complainant
- Action – if source not identified, offer to visit complainant for further investigation or noise measurement
- Note actions, follow-ups and discussions with complainant
- Date of resolution
- Records kept for possible future inspection.

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Appendix 9: BPM Inspection Proforma

In order to demonstrate compliance with the Proposed Steps to Minimise Noise and Vibration presented in Appendix 9 of the Section 61 consent application, the Contractor will complete a site BPM checklist at least once a week as part of their process of demonstrating compliance with the consent mitigation measures. Where mitigation measures are not being complied with, then corrective action shall be taken to amend the working practices so that they are compliant with those consented.

Generic
Comment

All vehicles and plant switched off when not in use.		
All plant in use is included within the Section 61 consent application		
Plant is being operated in a manner which minimises noise and vibration, engine covers closed, air-lines not leaking, joints suitably lubricated		
Plant maintained in good condition; no defects observed		
Site operatives observing the consent requirements on low noise generating behaviour and communication with colleagues		
Broadband reversing alarms in use		
Lighting rigs pointing away from residential areas		

Site Specific (to be completed as required)
Comment

Compliance with S61 YES/NO

If NO, Action Required:

Signed (Surveyor).....Name.....Date.....

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Appendix 10: Community Letter and Letter drop area

Community letter from the contractor or project manager to be circulated to properties in the vicinity of the works where construction noise may be perceptible taking account of the fact that the works are at night and bedroom windows may be open. The letter should clearly state:

The purpose of the works

The type of construction activity

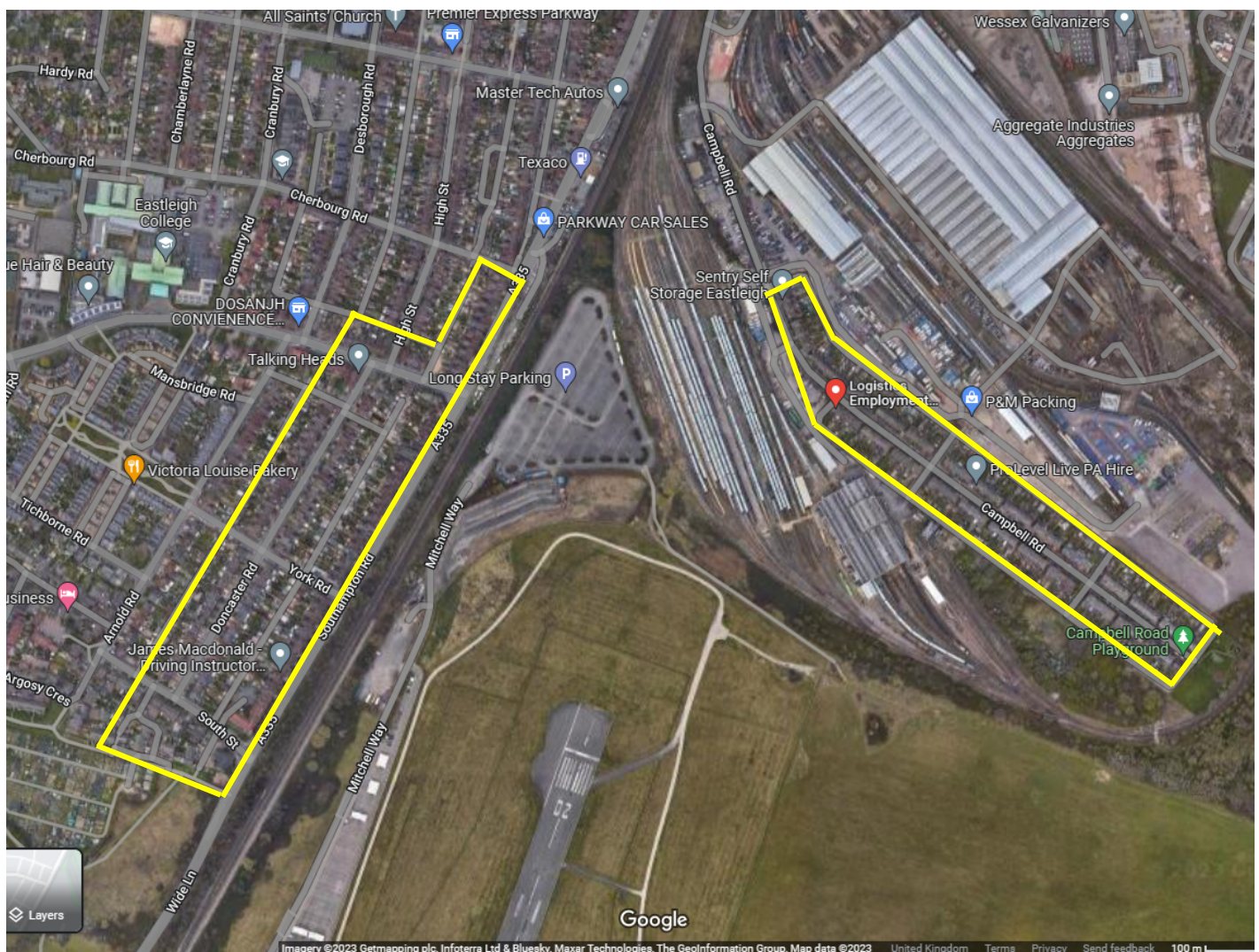
The working hours

The dates when works will take place

Steps being taken to minimise noise

Contact details for further information

Recommended Letter Drop Areas



VF-B ✓	VF-C ✓	VF-R R01-03	VH ✓	VR n/a	VS ✓	VB ✓	VGE ✓	VL ✓	VI ✓	Shared Services n/a
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Noise Control

HUSHTEC EXCAVATOR ATTACHMENT

HUSHTEC

NOISE CONTROL SOLUTIONS

The all new hushtec rock breaker noise control attachment was developed to mitigate the hammer noise effects generated within the breaker by controlling and absorbing noise at the source. After various trials and test the conclusion was made that the most noise was generated within the breaker unit itself rather than the pick hitting the concrete:

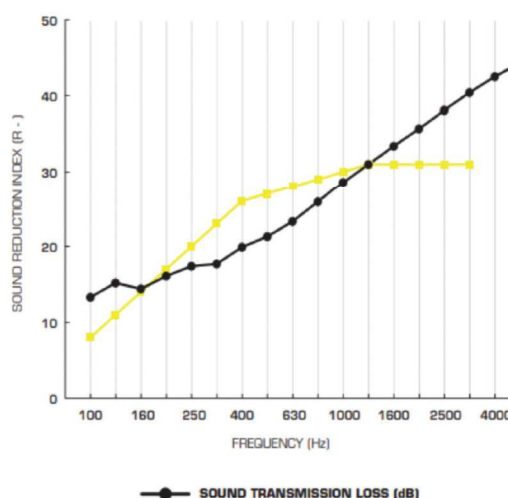


FEATURES & BENEFITS

- Custom manufactured to suit various attachments ranging from 5-20T + in size
- Fire retardant, water resistant
- 5 Minute install
- Flexible, strong with optional cutouts to accomodate for hydraulic hose's / grease knuckle points
- Made from STC26 certified MLV coupled with 50mm firerated NRC0.9 Polyester (35KG M3). (RW27)
- Ripstop PVC coating for additional strength
- Mesh backing
- 100mm velcro overlaps to ensure 100% noise barrier and minimal noise leakage points

NOISE TESTING TABLES BELOW (LAB) FOR THE RW27 ATTACHMENT:

1/3 OCTAVE CENTRE FREQUENCY Hz	SOUND TRANSMISSION LOSS : R dB	R 27 REFERENCE CURVE	95% CONFIDENCE LEVELS, dB.
100	13.3	8	3.2
125	15.2	11	2.0
160	14.4	14	2.0
200	16.1	17	1.4
250	17.4	20	0.7
315	17.7	23	1.2
400	19.9	26	0.9
500	21.3	27	0.9
630	23.3	28	0.9
800	25.9	29	0.6
1000	28.6	30	0.4
1250	31.0	31	0.5
1600	33.4	31	0.7
2000	35.7	31	0.7
2500	38.1	31	0.7
3150	40.4	31	0.8
4000	42.5	-	0.6
5000	44.3	-	0.7



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VF-B ✓	VF-C ✓	VF-R R01-03	VH ✓	VR n/a	VS ✓	VB ✓	VGE ✓	VL ✓	VI ✓	Shared Services n/a
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4 PERFORMANCE SERIES BARRIER

We have proven through extensive trials, tests & re-designs that our panels are incredibly durable. We have combined the most enduring material properties to provide a weatherproof and UV resistant acoustic panel that will withstand the toughest conditions with minimal deteriorations.

KEY FEATURES

- Noise absorption of up to 75%
- Custom size panels available
- Full printed personalisation available to enhance your company brand and environmental image
- Quick and easy to erect
- Can also control the spread of dust and fumes
- Weather and UV Resistant



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