

Technical Note

Project: Sexy Fish Manchester**To: Matt Bramley (FWP)****Subject: Technical data for proposed acoustic treatments to kitchen extract system****From: Dean Bowden****Date 13th April 2023****cc:****Ref: 91344/TN1**

Noise Solutions Ltd (NSL) has been requested to provide a quotation for the supply and installation of acoustic treatment to a kitchen extract system at the proposed Sexy Fish restaurant at 2 Spinningfields, Manchester.

It is understood that acoustic treatments must meet the performance specification outlined in ACA Acoustics Ltd report 211044-R007A dated 13th February 2023. This technical note provides details of the acoustic treatments proposed by NSL.

Acoustic enclosure

The enclosure will comprise 50mm deep solid acoustic panels supported by a steelwork frame. The panels will be demountable, fixed by cam locks to the framework. All panels will be painted to a standard RAL colour. [Appendix A](#) contains a datasheet for the proposed acoustic panels.

We include for 2No. attenuators in the sides of the enclosure (one at low-level, one at high-level) to provide passive airflow through the enclosure. The overall size of the enclosure would be nominally 3200mm(w) x 2200mm(d) x 2100mm(h). This excludes the attenuators, which will project from the enclosure sides. We will require FWP to provide an oversized drip tray for the fan enclosure to sit in. Example photographs for a comparable enclosure installation are given in [Appendix B](#).

Ductwork attenuators

ACA Acoustics have specified attenuators to both the room-side and atmospheric-sides of the kitchen extract system. A performance specification for the attenuators proposed by NSL is given in [Appendix C](#).

Acoustic treatments by others

In addition to treatments being provided by NSL, it is understood that the following treatments will be provided by others in line with the ACA specification:

- Suitable anti-vibration mounts to be fitted to all plant and associated ductwork/pipework;
- Suitable flexible connections to be installed between the proposed fan and ductwork;
- Any sections of unattenuated ductwork (i.e. between the fan enclosure and proposed attenuators) to be suitably acoustically lagged.

Appendix A Datasheet for proposed acoustic panels



ACOUSTIC PANELLING SYSTEMS Type APS



Design Features

NSL acoustic panels are constructed from 16swg sheet steel with a peripheral retaining frame containing an absorbent acoustic infill. Our panels are generally provided in 50, 75 and 100mm thicknesses, however we offer bespoke depths as necessary.

Each panel is constructed to provide inherent structural rigidity to ensure it is self-supporting. The absorbent infill is mineral wool with a density of 45kg/m³. The infill is inert, non-hygroscopic, rot proof and has a Class '1' rating for spread of flame in accordance with BS 476: Part 7. For internal applications the infill is sealed behind a resin bonded tissue facing to prevent particle migration. For external applications or systems where the product may be exposed to moisture or grease, the infill is wrapped and sealed in a protective melinex lining. The infill is retained behind a perforated sheet metal facing, ensuring the inner face of the product provides sound absorbing qualities.

Acoustic panels can be finished galvanised or in a high-quality polyester powder paint from the BS4800-1982 or RAL-F3-1984 colour ranges.

All acoustic panels and derivatives are delivered to site with the appropriate protective packing, dependent upon the type of finish

Typical Applications

- Acoustic enclosures
- Acoustic screens
- Absorptive wall linings
- Acoustic doors
- Room partitioning



Sound Reduction Data

Acoustic panel thickness (mm)	Sound Reduction Indices (SRI) @ 1/1 octave band centre frequencies (Hz)							
	63	125	250	500	1k	2k	4k	8k
50	15	18	25	34	41	48	52	52
75	15	22	32	38	45	48	52	52
100	20	22	28	38	50	53	53	55

For more detailed information and technical assistance please contact our Engineering / Sales Department

Data Sheet: NSL/1060/A

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Appendix B Example photographs





Appendix C Attenuator schedule

Attenuator	Overall dims (excl. flanges)	Insertion loss (dB) in 1/1 octave band centre frequencies (Hz)								Pressure drop (Pa)	Notes
		63	125	250	500	1k	2k	4k	8k		
Room-side	1300(w) x 1300(d) x 750(l)	4	7	12	18	25	20	16	11	50 (@ 8m ³ /s)	Melinex lined 30mm mezz flanges Access hatches for cleaning
Atm-side	1300(w) x 1300(d) x 750(l)	4	7	12	18	25	20	16	11	50 (@ 8m ³ /s)	Melinex lined 30mm mezz flanges Access hatches for cleaning