Iceland Foods Ltd 161802
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United Kingdom
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Our Reference
97326/99/1/3

Subject
Iceland Manufacturing

16 October 2019

For the attention of Graham Ireland,

Following a review of the vacuum cooling system, we have looked into proposed noise mitigation on the Iceland Manufacturing site, Gorton. As part of this we have looked at the feasibility of both an acoustic panel screen and acoustic louvred screen to be installed (post 'HD attenuation' by others). These screening options will offer equal values of attenuation, circa 10dB(A)

The installation of an acoustic screen, at a minimum distance above the plant item of 1m, twinned with other mitigation, ('HD attenuation' by others will further bring down the "global" sound power levels to assist in achieving requirements set by planning, if required.

To assist with predicting the noise reduction and overall sound pressure level at the receiver (27.63m from the plant) we have used the following calculation;
In summary; attenuation to the air intake and discharge takes the starting sound power level (82dB(A)), considers distance, directivity (Q factor) in our case (2) to estimate the overall Lp (sound pressure level) at the receiver.

$$L_p = L_W - \left|10 \cdot \log\left(\frac{Q}{4\pi \cdot r^2}\right)\right|$$

Resultant Lp at receiver **45dB(A)**

Below is our SS150 acoustic louvre data sheet, giving an overall Rw of 11. As this is a screening element, we assume the reduction achieved would be 10dB(A), and as such an attenuated sound pressure level of 35dB(A) would be achieved at the noise sensitive receiver.

Despite a solid panel screen having a higher "overall" sound reduction, used as a barrier we can still only expect to see a 10dB(A) reduction if used in this situation. For this reason, an acoustic louver is the recommended option. This could be further considered when noise levels are remeasured following the initial proposed 'HD attenuation' works."

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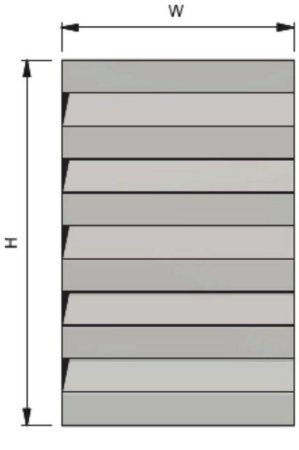
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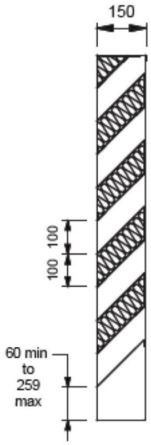
Registered office and head office

Company Registration Number
2790667
VAT Registration Number
GB614683632

Single Bank Acoustic Louvre, Standard Performance Profile, 150mm Deep







Typical weight 29kg/m²

Generally louvres above 50kg will be supplied in modules for assembly on site. Joining brackets and fixings will be provided for assembly.

Installation services, support steelwork, flashings, fixings to the structure and mastic will not be provided unless stated.

Refer to the Acoustic Louvre Schedule and Product Code Definitions for the size and specification of each Acoustic Louvre.

A minimum of 10mm clearance should be allowed between the structure and the Acoustic Louvre sizes shown.

Performance

Acoustic Data	dB in each Octave Band Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
Sound reduction index	4	4	6	8	11	11	11	10
Weighted sound reduction index (Rw)				11				
Static insertion loss	3	4	6	10	12	13	13	14
Regenerated sound power level at 1m/s face velocity	48	41	34	35	30	22	13	12
Regenerated sound power level at 2m/s face velocity	66	58	51	51	50	47	41	28

Yours faithfully,

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