

Gravesham Council  
Civic Centre  
Windmill Street  
Gravesend  
Kent, DA12 1AU  
United Kingdom

Subject: Compliance with Ventilation System Recommendations for Keen Fork Store

Dear Sir/Madam,

I am writing in response to your request for you to approve our ventilation system design, for our store, Keen Fork, in accordance with the recommendations provided by Gravesham Council on the 23<sup>rd</sup> of August 2022. We are pleased to inform you that we have made the necessary changes to our ventilation system design to meet your requirements.

To ensure compliance with the recommendations, we have addressed each point as follows:

1. The atmospheric side of the extract ductwork has been fitted with appropriate attenuation, in line with the requirements specified in Table 5.3, providing the necessary "Atmospheric side extract attenuation."
2. Silencers have been installed with a minimum distance of  $3 \times D$ , where D represents the largest internal dimension of the ductwork. We have ensured the recommended distance of at least 1.5-2m between silencers.
3. Attenuators have been placed as close to the fan as possible and attached to the ductwork using flexible connections, as per your guidelines.
4. We have incorporated a Melinex lined silencer as the extract attenuator to prevent grease impregnation into the acoustic media, ensuring the long-term performance of the ventilation system.
5. The fan motor has been enclosed within an additional casing that meets the minimum sound reduction insertion loss outlined in Table 5.4 of the report.
6. Anti-vibration mounts, in accordance with the manufacturer guidelines, have been installed for all plant and ductwork to minimize vibration and ensure proper operation.
7. To mitigate tonal elements resulting from the dominant case frequency of the extract fan (50-60Hz), the fan motor has been mounted on rubber or neoprene mounts with a minimum deflection of 5mm.
8. Flexible couplings have been used to attach the fan to the ductwork on both sides, effectively minimizing vibration transfer.
9. The ductwork has been attached to the building using isolated fixings with rubber or neoprene isolators that provide a minimum deflection of 1mm.
10. Additionally, we have taken into account the noise impact assessment report and have included the recommended mitigation measures for the ceiling above the kitchen. The following works have been undertaken:
  - a) An additional layer of 15mm dense plasterboard or fireboard (minimum mass 11kg/m<sup>2</sup>) has been installed beneath the existing ceiling.

b) A new metal frame grid, utilizing isolated hangers such as British Gypsum GAH1 hangers, has been attached to the existing ceiling, maintaining a minimum distance of 250mm below the original ceiling.

c) The new ceiling comprises two layers of 15mm dense plasterboard (minimum mass 11kg/m<sup>2</sup>) installed on the metal frame grid. A 100mm layer of mineral (minimum density 25kg/m<sup>3</sup>) has been placed in the void above the ceiling. Joints have been staggered, and the ceiling has been skimmed to ensure a smooth finish.

The following documents will also be submitted:

- Keen Fork Ventilation Specifications
- Ventilation Ductwork Diagram
- Tube Fan Data Sheet
- Site Safe Carbon Filters Data Sheet
- Airclean Grease Filters Data Sheet
- Square Duct Fans Data Sheet
- Round Sound Absorber Data Sheet
- Ceiling Report Keen Fork

We believe that these measures effectively address the recommendations provided by Gravesham Council and will ensure that the operational noise from the extraction in the kitchen does not detrimentally affect the first floor flat.

We are committed to adhering to all applicable regulations and guidelines and will continue to collaborate closely with Gravesham council and its regulations to ensure compliance throughout the operation of Keen Fork.

Kind Regards,

Itayi Mandizha