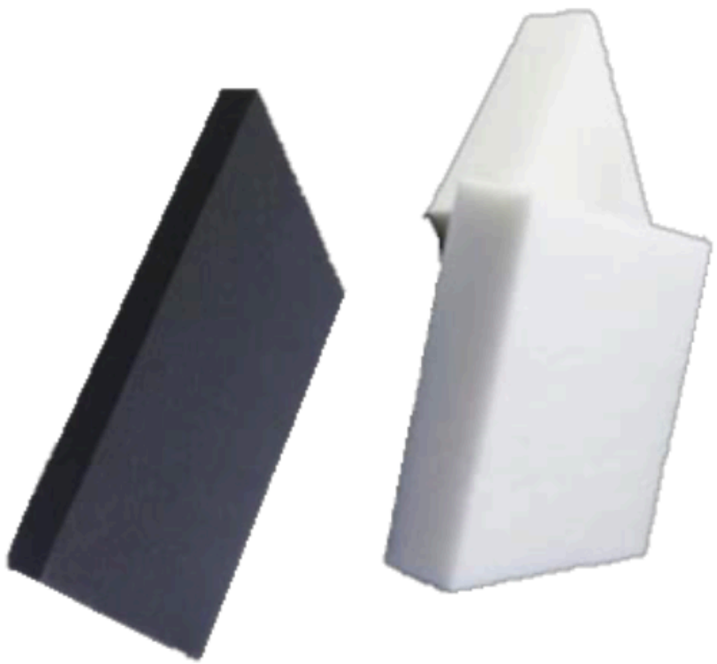
CLIENT-A LEADING INTERNATIONAL LUXURY REAL ESTATE DEVEOPER

CASE STUDY-Acoustic Solution for Pump Room Noise Mitigation

The Client was able to reduce noise transmission across adjacent rooms by over 50%, while Reverberation within the pump room was significantly controlled, leading to improved comfort for the client and enhanced operational efficiency in a quieter, more functional workspace.



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THE BACK GROUND

Kinetics Group was tasked with resolving a noise issue in the pump room at the client's request. Excessive noise levels from the domestic pump area were affecting the adjacent receiver room, leading to discomfort and operational concerns for the client. The primary challenge was to design and implement a noise control solution that would effectively reduce sound levels and reverberation within the pump room, thereby preventing noise transmission to surrounding areas.

THE CHALLENGE

The pump room was generating significant noise due to the operation of domestic pumps. The noise levels were not only creating an uncomfortable environment but also causing noise bleed into adjacent spaces, particularly the receiver room. The client required a solution that would not only mitigate the noise but also ensure compliance with acoustic performance standards, without compromising the pump room's functionality.

AT A GLANCE

Location	Dubai, UAE
Kinetics Group Solutions	Noise & Vibration solutions Acoustic Treatments Seismic restraints Engineering Services HVAC Equipments Acoustic Treatments
Turnaround Days	28 Days from Inception to handover

Key challenges included:

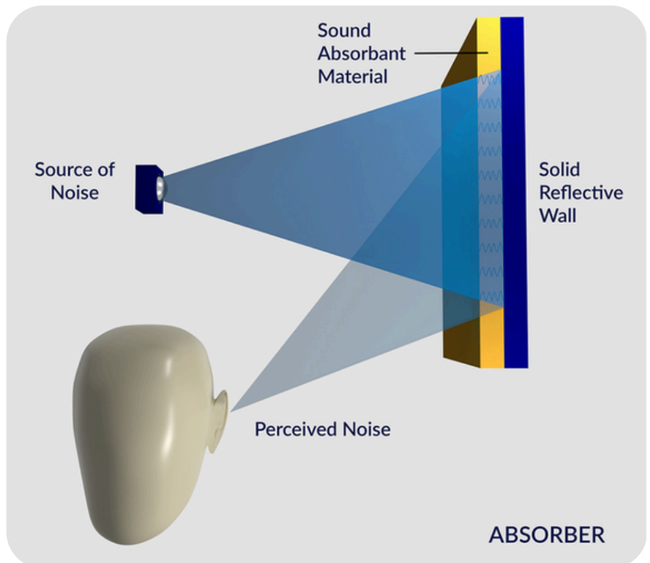
- High noise levels: Generated by the operation of domestic pumps, particularly during peak operation hours.
- Noise transmission: Sound from the pump room was traveling to the adjacent receiver room, creating operational disturbances.
- Reverberation control: The pump room's hard surfaces were causing high reverberation, amplifying the noise levels.

THE SOLUTION

To address the noise and reverberation issues within the pump room, Kinetics Group proposed the installation of Kinsorb Acoustic Polyester Panels, a highly effective solution designed for noise absorption and reverberation control. These panels are engineered to reduce airborne noise and prevent its transmission into adjacent areas, making them ideal for pump rooms and other mechanical spaces where noise levels are a concern.

Proposed Acoustic Treatment:

- Kinsorb Acoustic Polyester Panels were recommended for their superior sound absorption qualities. The panels were installed on the walls and ceilings of the pump room, strategically placed to target the primary sources of noise.
- Reverberation Reduction: The panels were designed to control and reduce reverberation by absorbing the sound waves bouncing off the hard surfaces, creating a quieter and more manageable environment within the pump room.



- Noise Mitigation to Adjacent Spaces: By treating the pump room with Kinsorb panels, we aimed to limit the transmission of noise to the adjacent receiver room, ensuring a significant reduction in noise levels.

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EXECUTION

Kinetics Group's experienced engineering and installation team carefully designed and implemented the acoustic treatment within the pump room. The installation involved:

- Site Inspection: Detailed analysis of the pump room's layout and noise sources to determine optimal placement of the Kinsorb panels.
- Precise Installation: The acoustic panels were installed across the walls and ceiling, covering key reflective surfaces to maximize sound absorption and reduce noise leakage.
- System Testing and Optimization: Post-installation, noise measurements were conducted to assess the effectiveness of the solution and ensure compliance with the project's acoustic performance standards.

RESULTS

Following the installation of the Kinsorb Acoustic Polyester Panels, the noise levels in the adjacent receiver room were significantly reduced. The reverberation within the pump room was controlled, creating a quieter and more efficient operational environment.

Key Results:

- Noise Reduction: The noise levels transmitted to the adjacent room were reduced by over 50%, resulting in a more comfortable environment for the client.
- Reverberation Control: The installation of Kinsorb panels effectively reduced reverberation within the pump room, contributing to better sound management and less overall noise.
- Improved Operational Efficiency: With the noise issue resolved, the client experienced improved operational conditions within the building, ensuring a quieter and more functional workspace.

CONCLUSION

Kinetics Group successfully addressed the client's noise issue by implementing a customized acoustic solution using Kinsorb Acoustic Polyester Panels. The outcome not only met but exceeded the client's expectations, providing a quieter environment and reducing the transmission of noise to surrounding areas. This project underscores Kinetics Group's commitment to delivering high-performance noise and vibration control solutions tailored to the specific needs of each project.

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