

THE ISOLATOR
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THE ISOLATOR

Hello July, the month where the sun sizzles, and so does the pace at KGC.

While most of us are thinking beach days and iced karak, Kinetics Group has been busy engineering acoustic solutions that blend performance with elegance—because quiet comfort shouldn't come at the cost of design.

In this issue, we dive into the clever strategies used to manage chiller noise in a residential project. We're talking Floating Walls that block sound while standing tall behind cement boards, Floating Floors that prevent structure-borne noise from reaching the rooms below, and Acoustic Barriers tucked discreetly behind ARC louvers—working behind the scenes like silent guardians of peace and quiet.

As summer stretches on, we hope this edition inspires both innovation and impact—in our projects, our teams, and the communities we serve. From all of us at Kinetics Group, stay cool, stay inspired—and welcome to another issue packed with insight, ingenuity, and just a little bit of rooftop swagger.





Tower A&B - Wadi Al Safa, Dubai

In the vibrant community of Wadi Al Safa, Dubai, Kinetics Group of Companies (KGC) was tasked with delivering a discreet yet effective acoustic solution for a G+8 residential complex featuring Tower A and Tower B. Each tower was equipped with two rooftop chillers rated at 110 dBA, positioned just 16 meters from rooftop-level apartments. The challenge: meet stringent UAE noise regulations and NC-35 indoor acoustic criteria without compromising the flowing ARC louver façade design.

The project demanded that external balcony noise stay below 50-60 dBA (day) and 40-50 dBA (night), while ensuring the interior spaces remained acoustically comfortable. Given the architectural requirement to hide all mitigation behind curved louvers, KGC had to engineer a solution that was both high-performing and invisible.

By integrating Floating Walls, Floating Floors and Acoustic Barriers behind Louvers, within the rooftop design, KGC successfully reduced chiller noise while preserving airflow and visual aesthetics. This project showcases KGC's ability to blend engineering precision with architectural vision, ensuring resident comfort without compromising the building's design integrity.

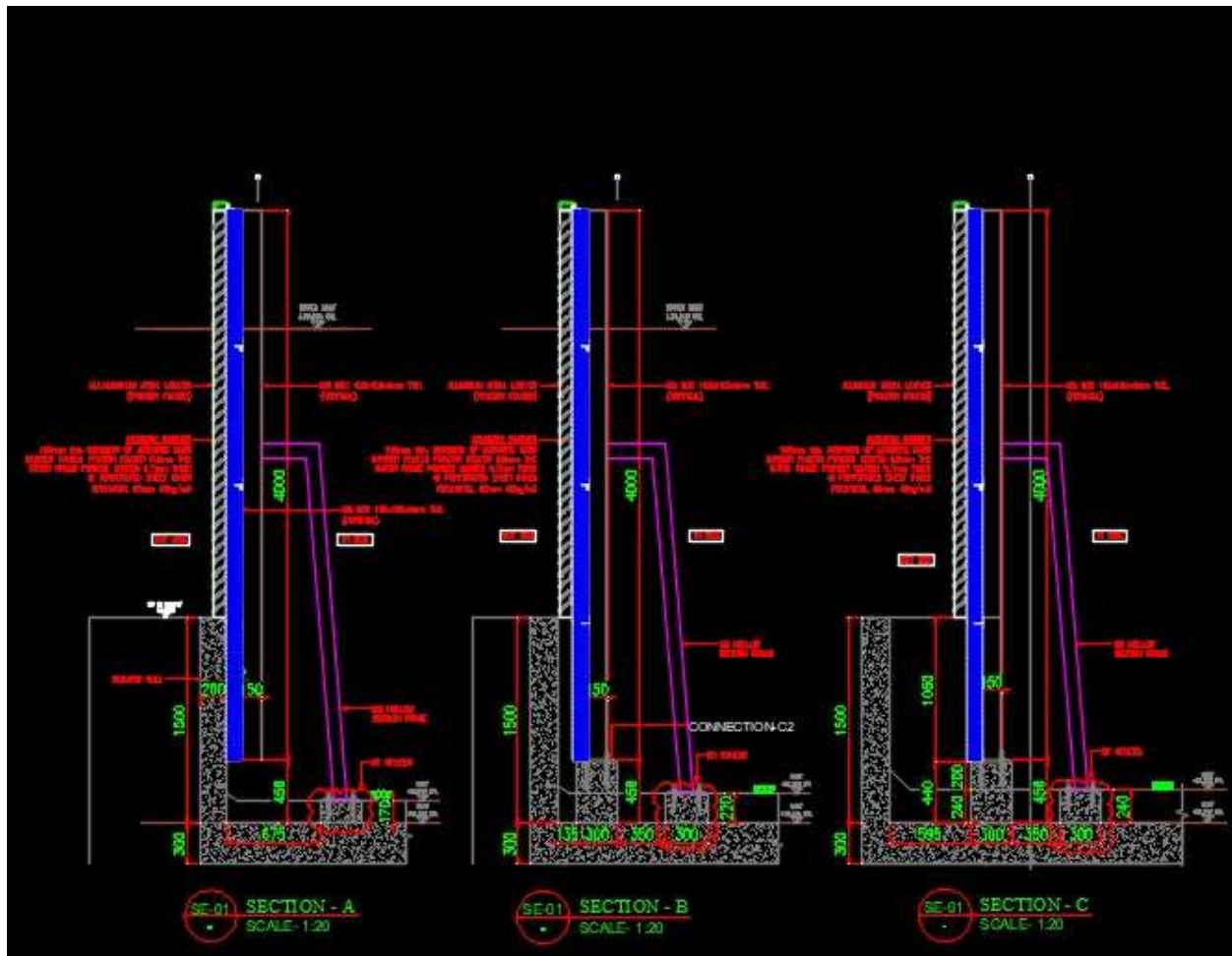
TECHNICAL DISCUSSION: Integrated Rooftop Acoustic Strategies for Chiller

Chillers located on rooftops presents a unique challenge, the need to contain noise without altering a building's exterior profile or compromising its functional access. In Wadi Al Safa, the KGC team deployed a hybrid strategy combining architectural camouflage and advanced isolation.

Key Acoustic Principles Applied:

- **Direct transmission loss** - Floating walls system leveraged high transmission loss with decoupled fixings to mitigate radiated noise.
- **Path Difference** - Barriers were designed to mitigated the sound transmission due to the path difference as per the ASHRAE standard.
- **Reverberation Control** - Strategic barrier selection to mitigate the sound transmission and reflections inside the chiller yard.

These three key principles were applied in this project to ensure that sound transmission is mitigated to the nearest apartment.



Design of Acoustic Barrier behind the Architecture Louver

The image above illustrates the acoustic treatment design installed behind the architectural louvers, ensuring that all noise mitigation measures remained completely hidden while preserving the building's sleek exterior façade.

Measured Outcomes:

- Balcony sound pressure reduced to compliant levels (as low as 50 dBA).
- Internal spaces achieved NC-35.

PRODUCT HIGHLIGHT: Floating Walls, Floating Floors and Acoustic Barriers

Floating Walls

Kinetics Floating Wall System is designed to block airborne noise from rooftop equipment, by isolating the existing apartment wall from the outdoor noise caused by the roof top chillers. Using a cement board as Ideal for environmental condition for the rooftop installations, the system combines mass, isolation, and absorption into a compact wall assembly.

For the Wadi Al Safa project, floating walls were installed around rooftop-level apartments using cement boards extending 1.5 meters above roof level. These walls were resiliently isolated from existing structures using Kinetics IsoMax™ clips, with a 50mm thick, 48kg/m³ unfaced fiberglass core to enhance sound absorption. The design cleverly eliminated the need for ceiling treatment by leveraging the mass of the roof slab, enhancing overall transmission loss (TL) performance.



Floating Floors

Kinetics Floating Floor System provides vibration and structure-borne noise isolation by decoupling the mechanical equipment from the building structure. It is ideal for chiller units, pumps, and other rooftop machinery directly above occupied spaces.

At Wadi Al Safa, this system was installed beneath rooftop chillers, extending laterally to capture and absorb impact zones. The core structure used Model KIP 50mm high-density fiberglass pads with elastomeric coating, layered over a 38mm low-density fiberglass underlayment. High-load areas were reinforced with additional KIP pads. Edge isolation was ensured using Model PIB 20mm closed-cell polyethylene boards, fully sealed. The entire system was covered with waterproof sheeting, and secured with plywood, steel junction plates, and fasteners, forming a sealed, load-bearing, and acoustically isolated surface.



Acoustic Barriers Behind Louvers

Kinetics Acoustic Barrier System is designed to block direct and flanking noise paths while also absorbing reflected sound energy—making it ideal for rooftop mechanical enclosures behind architectural louvers. With a Noise Reduction Coefficient (NRC) up to 1, the barrier not only controls sound transmission but also minimizes reverberation within chiller yards, preventing noise buildup and propagation. Its slim profile allows seamless integration behind decorative façades without altering the building's exterior.

For the Wadi Al Safa project, acoustic barriers were strategically installed behind the ARC louvers, serving as both sound blockers and absorbers to meet stringent environmental noise criteria. Each panel was 100mm thick, comprising a 0.9mm powder-coated outer frame, 0.7mm GI perforated inner sheet, and an internal 50mm thick Rockwool core at 48 kg/m³ density. This high-performance system enabled effective noise control without compromising ventilation or architectural aesthetics.



All balcony and indoor spaces met the project's specifications and acoustic targets, affirming the design's effectiveness in both transmission control and aesthetic preservation.

This project demonstrated how architectural ambition and acoustic precision can co-exist. With floating structures, hidden barriers, and creative detailing, KGC delivered silence without sacrificing style—redefining rooftop acoustic control in high-density environments.

KINETICS YOUTUBE & TESTIMONIALS

Kinetics Group proudly presents **Kinetics Metal Construction Industries (KMCI)**—our UAE-based manufacturing hub for precision-engineered acoustic and vibration control products.

Located in Umm Al Quwain, KMCI specializes in the fabrication of **inertia bases, acoustic louvers, sound attenuators**, and various custom metal assemblies that serve critical noise and vibration control needs across the region.

This video highlights our dedication to **quality and precision**, showcasing the people, machinery, and processes that bring our high-performance solutions to life—supporting the UAE's growing demand for engineered acoustic innovation.



YouTube Channel: <https://lnkd.in/dtwpwyqw>

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YouTube Video Link: https://youtu.be/_fjd1RGrXMQ?si=3SuDVz6K2sado4B7



"Kinetics consistently exceeded our expectations."

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Spacelab Interior Design

"Reliable, responsive, and results-driven – Kinetics impressed us."

SHER KHAN
E7M Electromechanical Works Contracting LLC

"Our experience with Kinetics was smooth from initial inquiry to order confirmation."

ENGR. SIRAJUDHEEN ABDUL KADHER
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"Outstanding support and expertise from the Kinetics team."

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"I had an excellent experience with Kinetics, they provided clear and accurate documentation."

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"Kinetics Ensured a smooth process with timely responses, clear communication, and efficient issue resolution."

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"The team's responsiveness and accuracy made our transactions effortless. Highly satisfied with the service!"

ENGR. ABISKHEK CHANDA PILLAI
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"Quick and clear communication, with good support throughout. A positive overall experience with Kinetics."

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"Kinetics delivered exceptional quality and service throughout the project."

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"We felt confident working with Kinetics thanks to their reliable support."

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