THE ISOLATOR
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# THE ISOLATOR

**Hello July! With project activity gaining pace across the region, KGC enters the month with a clear focus on delivering practical, reliable, and performance-driven engineering solutions. Our commitment remains centered on technical excellence, client confidence, and long-term value in every demanding project environment**

This month, we highlight two major projects: Nad Al Sheba Luxury Residential Development, Dubai and a Major District Cooling Facility, Qatar, where our solutions supported efficiency, vibration control, and operational reliability.

Our technical discussion explains NRC vs STC, highlighting sound absorption and transmission control. We also feature the Bolt Isolation Grommet – Model TG, designed to reduce structure-borne noise and improve system performance.

As we move through July, our commitment to innovation, reliability, and engineering excellence continues to shape every solution we deliver. Let's keep advancing with confidence engineering smarter systems for a stronger and more resilient future.smarter systems for a stronger future.

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# PROJECT HIGHLIGHT

## LOCAL PROJECT HIGHLIGHT: Nad Al Sheba Luxury Residential Development

Located within one of Dubai's premium residential communities, the Nad Al Sheba Luxury Residential Development was designed to provide a quiet, comfortable, and high-quality living environment. However, noise generated from mechanical plant rooms posed a potential challenge to maintaining the peaceful atmosphere expected within such an exclusive development.

To address this, an effective noise control solution was required to limit sound transmission from plant room equipment while preserving the ventilation performance necessary for reliable mechanical system operation.

### Project Requirements

The solution needed to deliver:

- High acoustic attenuation for plant room noise
- Unrestricted airflow for mechanical ventilation systems
- Long-term durability in outdoor operating conditions
- Minimal maintenance requirements
- Compliance with residential acoustic performance expectations
- Reliable operation without impacting equipment performance

### Kinetics' Engineered Solution

Kinetics designed and supplied a high-performance acoustic louver system specifically engineered for plant room ventilation applications.

The solution incorporated:

- Acoustic louvers designed for effective noise attenuation
- Sound-absorptive internal construction to reduce airborne noise transmission
- Optimized blade geometry to maintain airflow while achieving acoustic targets
- Robust construction suitable for long-term outdoor operation

### Project Outcome

The installed acoustic louvers significantly reduced noise breakout from mechanical plant rooms, contributing to a quieter and more comfortable residential environment. By combining engineered acoustic attenuation with efficient airflow management, the solution ensured uninterrupted system operation while enhancing occupant comfort and environmental quality.

This project demonstrates Kinetics' commitment to delivering performance-driven acoustic solutions tailored to the unique requirements of modern residential developments, ensuring comfort where it matters most.

# REGIONAL PROJECT HIGHLIGHT: Major District Cooling Facility – Qatar

The Major District Cooling Facility – Qatar was developed to support critical building services with high efficiency, operational stability, and long-term reliability. Within such facilities, mechanical equipment and ventilation systems can generate vibration and structure-borne noise that may affect system performance and increase stress on connected components.

To address these challenges, a reliable solution was required to isolate vibration, accommodate system movement, and improve the overall resilience of the mechanical infrastructure.

## Project Requirements

The solution needed to deliver:

- Effective vibration isolation for mechanical equipment
- Reduced structure-borne noise transmission
- Accommodation of thermal expansion and operational movement
- Long-term durability under continuous operating conditions
- Protection of connected equipment from stress and misalignment
- Improved system stability and reliability

## Kinetics' Engineered Solution

Kinetics designed and supplied a high-performance rubber flexible connector system specifically engineered for demanding mechanical applications.

The solution incorporated:

- Flexible connectors for superior vibration isolation
- Reduction of noise transmission through piping networks
- Capability to absorb thermal movement and operational vibration
- Durable elastomeric construction for long service life
- Robust design suitable for continuous-duty district cooling applications

## Project Outcome

The installed rubber flexible connectors significantly reduced vibration transfer and mitigated noise propagation within the mechanical systems. By absorbing movement and protecting connected equipment from excessive loads, the solution enhanced system stability, improved acoustic performance, and supported reliable long-term operation.

This project demonstrates Kinetics' commitment to delivering engineered vibration control solutions that enhance the performance, durability, and resilience of critical mechanical infrastructure in demanding operating environments.

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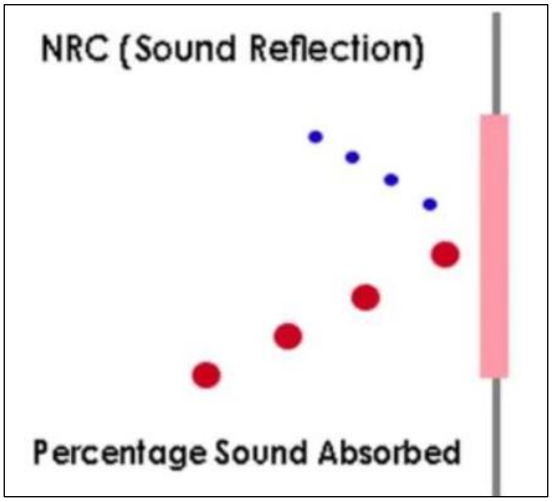
# TECHNICAL DISCUSSION:

## NRC vs STC: Understanding Key Acoustic Performance Metrics in Building Design

In modern building and MEP design, acoustic comfort plays a vital role in enhancing occupant experience, productivity, and privacy. Two of the most commonly referenced acoustic performance indicators are NRC (Noise Reduction Coefficient) and STC (Sound Transmission Class). Although both relate to sound control, they measure fundamentally different behaviors of sound within built environments.

### What is NRC (Noise Reduction Coefficient)?




NRC is a measure of how effectively a material absorbs sound within a space. It indicates the average amount of sound energy absorbed rather than reflected back into the room.

Materials with higher NRC values are more effective in reducing:

- Echo
- Reverberation
- Background noise buildup

Typical applications include:

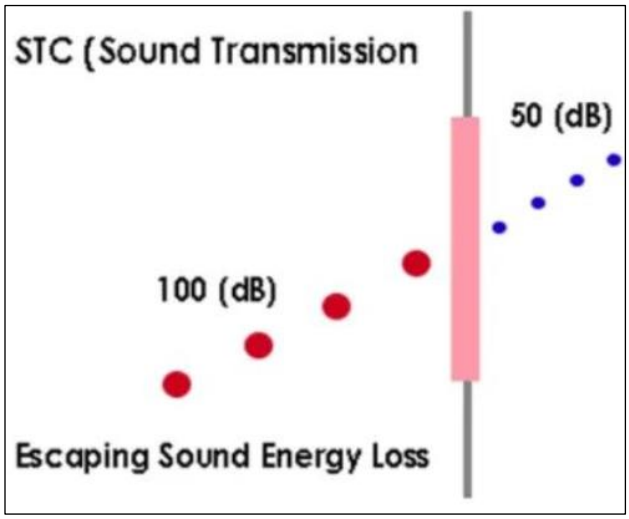
- Acoustic ceiling tiles
- Wall panels
- Acoustic insulation finishes in open offices, auditoriums, and mechanical rooms

In simple terms, NRC improves internal sound quality by controlling how sound behaves inside a space.

### What is STC (Sound Transmission Class)?

STC measures how well a building element blocks sound from passing through it. Unlike NRC, which deals with internal reflections, STC focuses on sound isolation between two spaces.

A higher STC rating means better resistance to airborne sound transmission.




Typical applications include:

- Partition walls between offices or apartments
- Doors and glazed systems
- Floor-ceiling assemblies in multi-storey buildings

In simple terms, STC ensures privacy and sound separation between adjacent rooms or zones.

Understanding the distinction between NRC and STC is essential for achieving effective acoustic design in any built environment. While NRC focuses on improving internal sound quality by controlling reverberation within a space, STC addresses the critical need for sound isolation between adjacent areas to ensure privacy and reduce noise transfer.

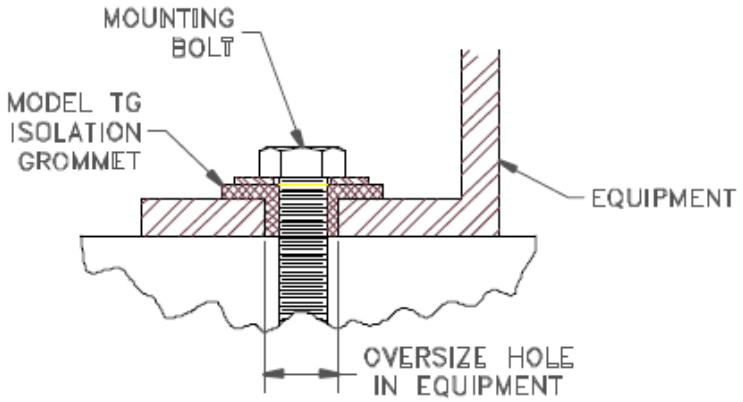
# PRODUCT HIGHLIGHT:

## BOLT ISOLATION GROMMET – Model TG

The TG Bolt Isolation Grommet is a specially engineered neoprene insert designed to fill excess clearance around anchor bolts in equipment mounting plates and support frames. It ensures compliance with seismic anchorage requirements and industry best practices by maintaining proper bolt-to-hole clearances while providing vibration isolation and secure equipment mounting. Constructed from durable 80-durometer neoprene, the grommet offers long-term performance in demanding mechanical and structural applications.

### Engineered Performance

Engineered for vibration control applications, the TG Bolt Isolation Grommet effectively reduces oversized bolt-hole clearances where smaller anchor bolts are specified than the original mounting plate design. The high-density 80-durometer neoprene construction provides excellent load-bearing capability, resilience, and durability while helping maintain equipment stability and alignment. It serves as a practical solution for achieving code-compliant installations without modifying existing mounting plates.




### Key Features

- Manufactured from robust 80-durometer neoprene for long service life.
- Maintains recommended bolt-to-hole clearances in accordance with seismic and industry best practices.
- Accommodates a wide range of anchor bolt sizes from ¼" to 1½".
- Enhances equipment mounting integrity and anchorage performance.
- Suitable for both new installations and retrofit applications.

### Applications

- HVAC equipment mounting systems.
- Pumps, chillers, cooling towers, and mechanical equipment.
- Generator and industrial machinery anchorage.
- Equipment isolation systems requiring code-compliant bolt clearances.
- Retrofit projects where existing mounting holes exceed the required anchor bolt dimensions.

Engineered for precision and built for reliability, TG Bolt Isolation Grommets continue to support safer and more resilient building systems across a wide range of applications.

### Why It Matters

The TG Bolt Isolation Grommet helps improve anchorage accuracy, reduce vibration transfer, and protect equipment mounting integrity, ensuring safer and more reliable operation in demanding mechanical environments.

By combining durable neoprene construction, vibration isolation performance, and practical retrofit flexibility, Kinetics continues to deliver engineered solutions that support resilient building systems and long-term operational reliability.

# KINETICS YOUTUBE & TESTIMONIAL

Discover the KINETICS Floating Floor System, engineered to control impact noise, vibration, and structure-borne sound in acoustically sensitive spaces. Utilizing engineered airspace and high-performance KIP fiberglass isolation pads, the system delivers superior acoustic isolation compared to conventional underlayments.

Ideal for recording studios, dance spaces, loft residences, and areas beneath rooftop equipment, Kinetics provides customized floating floor solutions with technical support from design through installation—ensuring reliable performance, compliance, and long-term acoustic comfort


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

**YouTube Video Link: https://youtu.be/BJpXnePmob4?si=C-6iLa22b4awLkq8**

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## What our Customers ARE SAYING

**"Exceptional understanding of projects by Kinetics Group's Sales Engineers."**
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**"Kinetics Group provided valuable engineering insights and reliable guidance."**
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**"Kinetics Group demonstrated outstanding technical expertise and commitment."**
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**"Kinetics Group consistently delivers professional and timely administrative support."**
**MERIN SAJI**
**RAQ Contracting Co L.L.C.**

**"The Sales Engineer demonstrated excellent technical knowledge and understood our requirements perfectly."**
**HAFIS MOHAMED BIN ASHRAF**
**Trans Emirates**

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