

Sound design: creating better spaces with innovative materials

ROCKWOOL's new acoustic lab
Hedehusene | Denmark

2025



Acoustic performance has always been a key strength of ROCKWOOL stone wool, and it remains so. As acoustics become increasingly important for buildings that enrich modern living, ROCKWOOL has chosen to provide living proof of this fundamental aspect of building design. And now it's available to you: the new ROCKWOOL Acoustic Lab, at our headquarters in Hedehusene, Denmark.

At the Acoustic Lab, we carry out precise testing and demonstrations that highlight the sound insulation performance of stone wool. Let your vision of soundproof buildings that perform at their best become a reality. Hear it, feel it, go forward with it!





“This thorough approach to R&D is essential, not only for driving innovation, but also for building trust throughout the entire construction value chain. When acoustic performance is backed by transparent and validated testing, designers and specifiers can make confident, evidence-based decisions.”

Rasmus Gottrup Barfod,
Section Manager Fire and Acoustic Laboratories

Spaces that enhance health, comfort and overall wellbeing

In today's fast-moving cities, unwanted noise isn't just an annoyance – it's a growing public health concern. According to the World Health Organization, prolonged exposure to high noise levels can impact sleep, reduce productivity, and even pose long-term health risks. From the rumble of heavy traffic to the noisy upstairs-neighbours in multi-storey buildings, you might have assumed that background noise is just an unavoidable fact of life.

While we can't hit a mute button for most loud sounds, there is a way to tackle the issue. Insulation within buildings can offer a powerful line of defence, with their acoustic properties having the potential to hugely improve the quality of life of anyone using them.

As Daniela Pasquero, our Public Affairs & Innovation Manager at ROCKWOOL Core Solutions puts it, “Sound shapes environments. That's why ROCKWOOL is here to make a difference. Our mission goes beyond reducing noise. It's about creating spaces that enhance health, comfort and overall wellbeing.”

That's why ROCKWOOL is innovating with a bold new investment: a state-of-the-art acoustic laboratory. Set to be inaugurated in 2025, this modular facility will allow ROCKWOOL to better serve our customers — and shape the next generation of high-performance building solutions from the inside out.

“The new ROCKWOOL acoustic laboratory offers a highly controlled environment that significantly accelerates the prototyping process while providing deeper insight into the acoustic performance of new materials and systems. By conducting tests under consistent and repeatable conditions, we can generate data-driven results.”

Rasmus Gottrup Barfod,
Section Manager Fire and Acoustic Laboratories





Everything under one roof

Acoustic performance is one of the many strengths of stone wool. Whether it's preventing flanking transmission in timber-frame homes or achieving sound absorption in offshore ceilings, measurable and repeatable sound performance plays a vital role in many of our products.

For ROCKWOOL Group and our operating companies, the ability to test acoustic performance in-house means a **more efficient product testing pipeline**, accelerated prototyping and improved research quality. **Hence the idea to develop our own dedicated acoustic development laboratory was born.**

ROCKWOOL set out to design a facility with a unique combination of flexibility, precision and scale. From the early planning stages, the aim was to build a one-of-a-kind in-house R&D laboratory, capable of conducting both internal tests for product development and accredited third-party assessments for certified documentation. To both meet and exceed international testing standards, the new facility would need purpose-built environments, the highest-tech equipment, and well-trained experts who can carry out the work to the highest levels of competence and reliability.

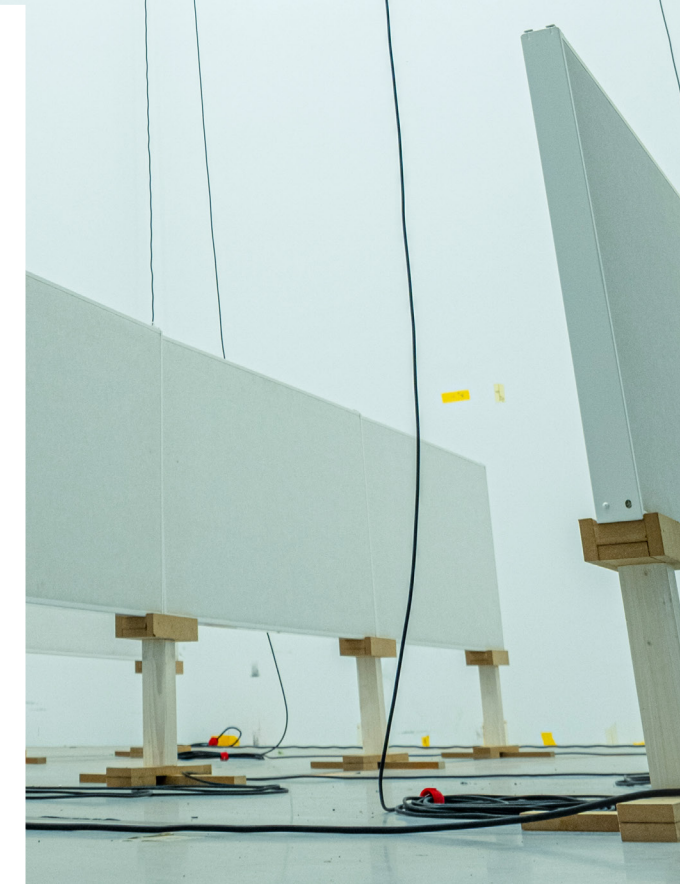


That level of ambition brought complexity. From tender and design logistics to acoustic engineering and civil works, dozens of technical decisions shaped every phase of the project. The lab's core structure was developed in close partnership with leading Danish engineering and construction partners: NIRAS (lab design), LANGVAD Aps ARKITEKTER (architecture) and Hoffmann A/S (general contractor).

The first and most technically challenging milestones were the foundation works and the construction of the vibration-isolated test rooms.

From prefabricated concrete floors to room-to-room damping systems, every element had to meet strict acoustic tolerances to guarantee reliable, accurate and repeatable measurement data.

All challenges were met, though, and the new 550m², 5350m³ facility was completed in August 2024. Constructed in Hedehusene, Denmark, the new lab is also directly adjacent to ROCKWOOL's chemistry, and physical material laboratories and not far from the fire laboratory, offering significant logistical and R&D advantages.





"Testing, testing, 1-2-3"

What sets the Hedehusene lab apart from other in-house R&D acoustic testing facilities isn't just its equipment, it's the built-in flexibility. **Designed as a modular space with interchangeable wall, ceiling and floor elements, the lab can be adapted to suit a broad range of test scenarios.** This makes it ideal for simulating product use under real-world conditions.

Inside, the lab features:

- High-precision equipment and data acquisition systems
- Floating test rooms mounted on vibration dampers
- Reverberation chamber for sound absorption measurement
- Dedicated setups for airborne and structure-borne sound testing
- Modular linings, partitions, sandwich panel mounts and more

And the tests that can be carried out in the lab include:

1. Sound insulation
 - Airborne (walls, linings, façades, ceilings, doors, etc.)
 - Structure-borne (floors, slabs, pipes)
2. Sound absorption
 - Ceilings, linings, offshore ceilings
3. Flanking transmission
 - Across structural junctions, façade links, panelled systems

With all our experience, we also know how important it is that results meet our client's specific needs. So wherever possible all our tests are aligned with both ISO and ASTM standards, for data comparability across global markets.

And that data is fast and accurate as standard. As Heiko Hoviele, Product Manager for Acoustic Systems, explains: "By incorporating advanced technology and software for real time analysis, we strive to provide detailed insights and quicker results."

"When products are tested in a reliable and standardized environment, architects, developers, and end users can make decisions with confidence. Accurate data builds trust, not only in the test results, but in the products themselves, ultimately supporting better indoor environments, improved occupant well-being, and long-term satisfaction across the construction value chain."



"In construction today, reliable acoustic performance is a necessity. To deliver that, precise, trustworthy data is essential. High-quality acoustic testing facilities play a critical role by providing transparent, repeatable, and industry-compliant measurements."

Heiko Hoviele,
Product Manager for
Acoustic Systems





Delighted to demonstrate ourselves

True to our ethos of applied innovation, ROCKWOOL constructed the new laboratory using our own high-performance products. From the exterior façades to interior partitions and ceiling systems, the lab itself showcases the role stone wool products play in creating world-class sound environments.

Included in the build-out are:

- TOPROCK® for flat roof systems
- ROCKWOOL A-Batts® for internal partitions
- Rockfon® acoustic ceiling systems for absorption performance
- Rockpanel® façades for durable and fire-resilient cladding
- ROCKWOOL Spanrock® for sandwich panels
- ROCKWOOL stone wool for insulated doors

After all, if we're claiming our products are the best in the business, what better proof of our confidence than putting them at the heart of our new lab? This way, we get to demonstrate how ROCKWOOL materials can meet fire, acoustic, structural goals.

The modular, adaptable nature of the lab also contributes to sustainability. Partition walls, floor elements and ceiling panels can be reused or rearranged between tests — minimising waste and reducing the need for duplicate builds.

Tests can now be tailored to simulate a panel or system's real-world conditions (including degradation, reuse, and performance at end-of-life stages), helping customers design for circularity with confidence.





Innovation at your fingertips

The acoustic lab isn't just a win for our in-house R&D. Even more importantly, it's a real asset for our customers.

With the new lab, Core Solutions can more rapidly support OEM product development. In addition to faster testing and development cycles, we now offer technical documentation, whitepapers and performance summaries that customers can use to strengthen the credibility of their own systems and services.

What's most important for many of our OEM customers is how we can also guarantee confidentiality – especially in the product development and prototyping phase.

"Customers will gain several key benefits: enhanced product quality through rigorous testing, faster time-to-market due to screening testing processes, and the ability to meet and exceed industry standards."

Vincent Blain,
Marketing and Development Director





A sound investment

Set to be officially inaugurated in 2025, the acoustic laboratory builds on ROCKWOOL's position as a leader in stone wool technology to make us pioneers in advanced product testing and customer collaboration. With its advanced test environments, modular design and adjacency to other key R&D functions, it represents a new platform for innovation: faster, smarter and more aligned with the realities of today's building challenges.

As industries push toward quieter, more comfortable and sustainable environments, the lab provides a powerful tool to help ROCKWOOL and our partners build better.

Project stakeholders

Building Owner: ROCKWOOL A/S

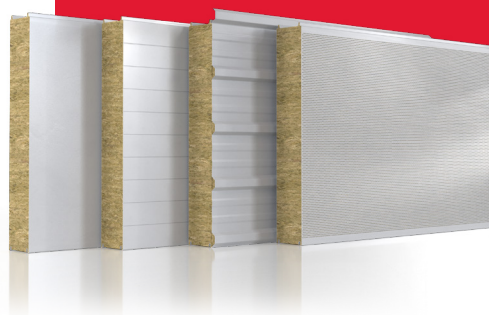
Project Designer: NIRAS

General Contractor: Hoffmann

Architect: LANGVAD Aps ARKITEKTER –
Architect Jesper Langvad

Products and services:

- TOPROCK® for flat roof systems
- ROCKWOOL A-Batts® for internal partitions
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Get in touch with us now



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