



Acoustic Products Ltd
70C High Street
Whitstable
Kent
CT5 1BB
Tel: 01227 281140

The Acoustic Challenge in Modern Offices



Modern office design has evolved dramatically over the past two decades. Open-plan layouts, Open Café Tea points, glass partitions, hard flooring, and exposed ceilings have become the architectural standard. These spaces are visually stunning—bright, airy, and collaborative—but they often suffer from poor acoustic performance.



When sound waves reflect off hard surfaces without sufficient absorption, they create long reverberation times. Conversations, phone calls, and equipment noise overlap and linger in the air, producing a noisy, distracting environment. This not only affects comfort but also reduces concentration and productivity. Research has shown that workers in noisy offices can experience up to a 66% drop in performance on tasks requiring focus or memory retention.

Controlling reverberation is therefore a critical aspect of office design—and that's where **Topakustik** Micro panels, supplied and supported by **Acoustic Products Ltd**, come in.

web: www.acoustic-products.co.uk email: enquiries@acoustic-products.co.uk

Registered Office: 168 Shoreditch High Street, London, E1 6RA. Company Registration No. 3717191

VAT Registration No. 733 3249 46



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Who Are Acoustic Products Ltd?

Acoustic Products Ltd are specialists in acoustic and architectural solutions, with decades of experience in helping architects, designers, and contractors create acoustically balanced environments. The company provides technical guidance and product expertise to ensure that acoustic control and aesthetics work seamlessly together.



As the UK distributor and design partner for Topakustik, Acoustic Products Ltd assist architects from the early stages of design through to installation. Their team provides:

- Acoustic performance data
- Product selection and finish options, and
- Detailed integration advice for ceilings, walls, and bespoke joinery.

By combining architectural vision with acoustic science, Acoustic Products ensures that every project achieves both visual harmony and exceptional sound performance.



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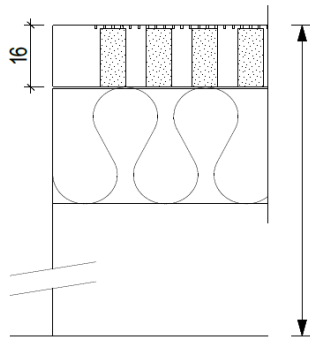
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Understanding Topakustik Micro Panels

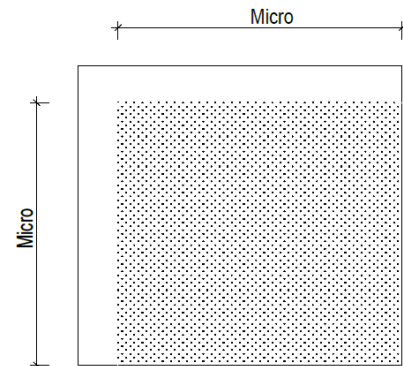


Topakustik Micro (2018)
Perforation 1.8/1.8/0.5

with fleece

Mineral wool 40 mm, 60 kg / m³

Suspension height: 226/66 mm
Cavity 170/10 mm



Topakustik Micro panels are precision-engineered acoustic panels designed to control reverberation while maintaining a high-end visual finish. Each panel consists of a solid surface—usually MDF with a wood veneer, laminate, or painted finish—perforated with microscopic holes 0.5 in diameter, spaced between 1.8mm to 3mm.

Behind the perforated panel is a layer of acoustic fleece or absorber, allowing sound energy to enter the holes and dissipate as heat. This micro-perforation system is based on the Helmholtz resonance principle, meaning each tiny hole acts as a miniature resonator that absorbs specific frequencies of sound.

The result is a product that looks like solid timber yet performs like a high-efficiency sound absorber—making it ideal for modern offices where aesthetics and acoustics must coexist.

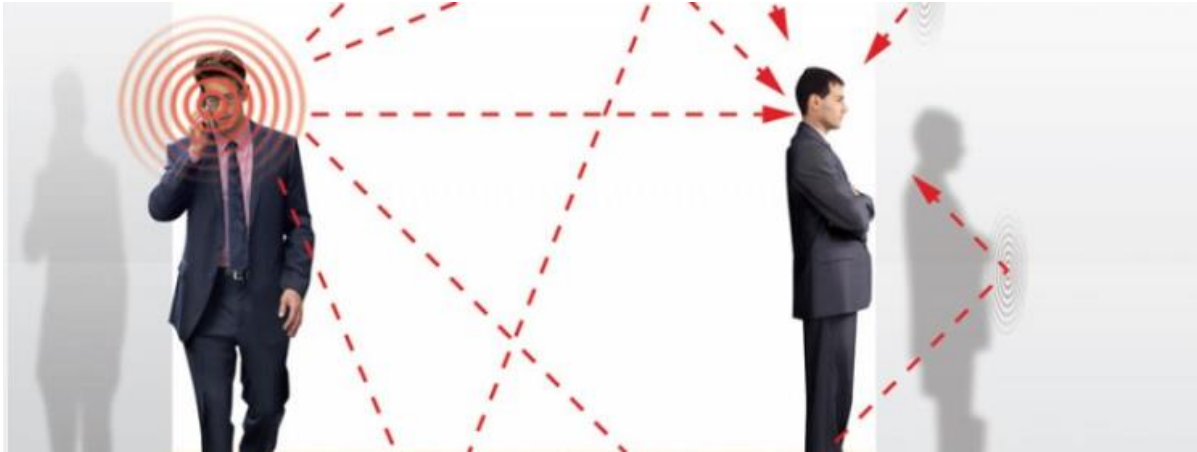


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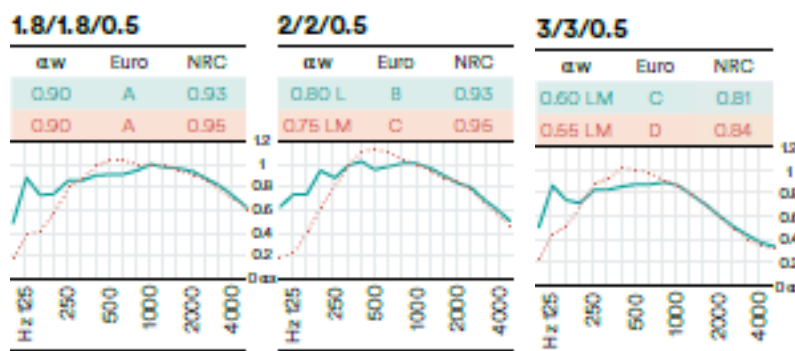
How They Work: The Science Behind the Silence



In an untreated office, sound waves reflect repeatedly between surfaces, increasing the reverberation time (RT60). The longer the RT60, the more muddled and “live” the sound becomes.

When Topakustik Micro panels are installed, sound waves enter the micro-holes instead of reflecting. The oscillating air in each hole converts kinetic energy into heat through friction and viscous resistance, while the backing material absorbs the residual sound. This process significantly reduces reflections and shortens reverberation time.

By precisely controlling perforation size, spacing, and cavity depth, Topakustik products have various different products so that Acoustic Engineers can specify which panels to use so as to manage acoustic absorption across a wide range of frequencies—especially in the speech range (250 Hz – 4000 Hz), where clarity matters most.



Reducing Reverberation Time in Office Spaces

Reverberation time is a key factor in acoustic comfort. In open-plan offices or meeting rooms with hard finishes, the RT60 can easily exceed 1.2 to 1.8 seconds, leading to echo and speech overlap.

For effective communication and concentration, the ideal RT60 is around 0.4 to 0.6 seconds. Installing Topakustik Micro panels on ceilings and walls can reduce reverberation by as much as 50%, depending on the room geometry and surface coverage.

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Acoustic Products Ltd works closely with architects and Acoustic Consultants who can model and predict these outcomes early in the design phase, ensuring the right balance of materials and finishes. This proactive approach means the final environment feels calm, controlled, and acoustically pleasant.

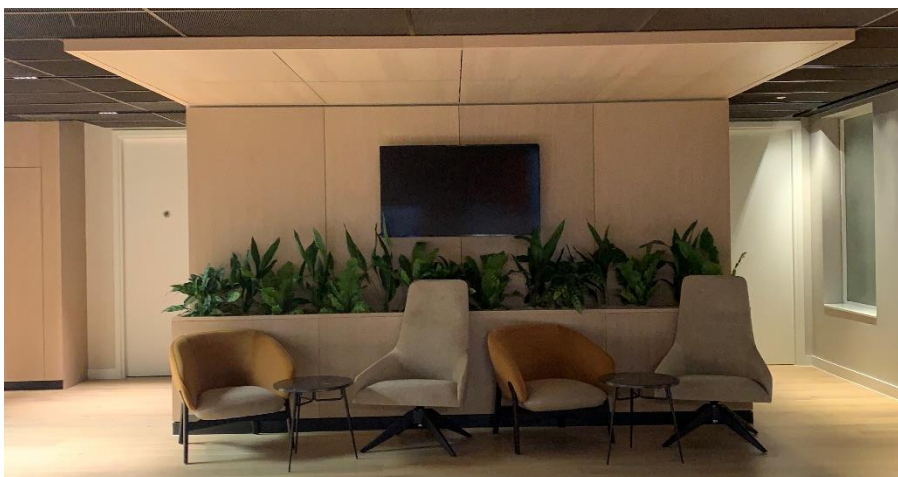
Enhancing Speech Intelligibility and Reducing Distraction



One of the main benefits of acoustic absorption in offices is improved speech intelligibility. In noisy environments, words become blurred as reflections overlap with direct sound, forcing people to speak louder and concentrate harder.

Topakustik Micro panels absorb these reflections, ensuring that speech remains clear and natural. This leads to measurable improvements in the Speech Transmission Index (STI)—a key indicator of how easily speech can be understood.

Moreover, by reducing mid- and high-frequency reflections (where most speech energy lies), the panels prevent conversations from travelling across open spaces. This enhances speech privacy, allowing employees to work and collaborate without disturbing others.



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Improving Concentration and Wellbeing



Noise is one of the most common sources of stress in modern offices. Even moderate background chatter can reduce comprehension, concentration, and creativity.

By reducing reverberation and lowering background noise, Topakustik Micro panels help create acoustically comfortable zones—areas where employees can focus without constant distraction.

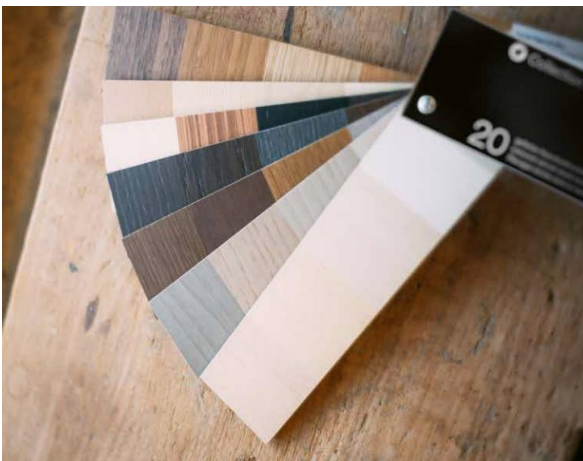
Workers no longer need to strain to understand speech, and their brains expend less effort filtering unwanted noise. This reduction in cognitive load translates into higher focus, greater productivity, and reduced fatigue.

Acoustic comfort also has a psychological dimension: quieter environments feel calmer and more professional. Staff report lower stress levels and higher satisfaction when their workspace “sounds” as good as it looks.

Integration with Architectural Design

A key strength of Topakustik Micro panels is their aesthetic flexibility. The micro-perforations are so small they are almost invisible, allowing the natural beauty of wood veneers or painted finishes to take centre stage.

Architects can specify the panels in a wide range of finishes— Any Natural or manmade veneer available on the market to Melamine or lacquered options—to complement the design palette of the office. They can be used as full-height wall panels, suspended ceiling systems, or integrated into bespoke joinery, reception desks, and meeting pods.



Acoustic Products Ltd provides detailed CAD drawings, fixing methods, and performance data to help architects integrate the panels seamlessly into their designs—ensuring form and function coexist perfectly.

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Zoning the Office with Acoustic Design

One of the most effective ways to manage office acoustics is to design acoustic zones tailored to different activities.

Acoustic Products Ltd often works with architects to specify Topakustik Micro panels in strategic locations:

- Focus Zones: ceiling or wall panels to minimize sound intrusion and create quiet workspaces.
- Collaboration Areas: partial coverage to maintain a lively but comfortable sound field.
- Meeting Rooms: full-wall and ceiling coverage for speech clarity and privacy.
- Reception and Circulation Areas: decorative acoustic panels that control echo without compromising design.

This zoned approach ensures that every part of the office supports its intended use, improving both functionality and employee experience.





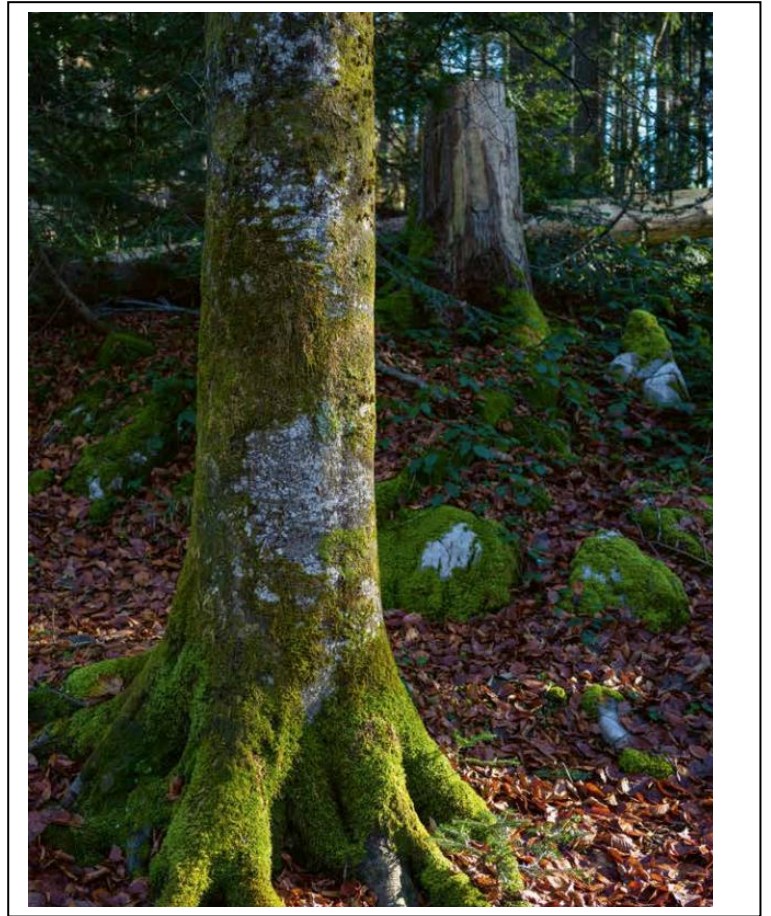
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Sustainability and Long-Term Value

Topakustik Micro panels are produced with sustainability in mind. The materials are FSC-certified, low in formaldehyde emissions, and fully recyclable. Their long life and low maintenance requirements make them a durable, environmentally responsible choice.

Acoustic Products Ltd supports architects in meeting BREEAM and WELL Building Standard acoustic criteria by supplying documentation and test data to demonstrate compliance.

Unlike fabric-wrapped absorbers, Topakustik panels retain their performance and finish over time, offering a long-term return on investment for commercial projects.



Quantifiable Results in Office Environments

The measurable benefits of using Topakustik Micro panels in office design include:

- Reverberation Time Reduction: typically 40–60% lower RT60 values.
- Improved Speech Intelligibility: STI improvements from 0.5 to 0.8 (excellent clarity).
- Lower Noise Levels: a perceived sound level reduction of 3–6 dB(A).
- Enhanced Productivity: staff report 15–20% better concentration and reduced fatigue.

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Conclusion: Creating Offices That Sound as Good as They Look

The modern office is more than a place of work—it's a space for creativity, communication, and wellbeing. To function effectively, it must not only look beautiful but sound balanced.

Topakustik Micro panels, with their advanced micro-perforation technology, transform noisy, reflective offices into calm and focused environments. By reducing reverberation, improving speech intelligibility, and promoting concentration, they create conditions in which employees can thrive.

And with the expertise of Acoustic Products Ltd, architects can achieve these results without compromising on design. From acoustic absorbing option to material selection, installation advice, and aftercare, Acoustic Products supports every stage of the process—helping create workplaces that are visually inspiring, acoustically comfortable, and conducive to performance.

In short, Topakustik Micro panels, guided by Acoustic Products' expertise, deliver the perfect synergy of architecture and acoustics—turning modern offices into spaces where people can truly focus, communicate, and excel.



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