

HAGASKOLAN'S SPORTS HALL – PROOF THAT GOOD ACOUSTICS CAN BE ACHIEVED

“Thank goodness – at last **a sports hall with good acoustics**. Fabulous! The noise level is not only lower. **It’s also softer and doesn’t feel as damaging** as in other halls where I’ve worked.” Åke Grundberg, physical education teacher.

“You’re forced to shout yourself hoarse when the noise comes from all directions in noisy sports halls,” says Åke Grundberg, a physical education teacher at Hagaskolan school in Sundsvall, Sweden. “Students wanting your attention, shouting, balls bouncing – it all mixes together into a mishmash of loud, disturbing noise. It’s worst of all during basketball matches or competitive events like district tournaments with lots of cheering supporters. Ideally, I’d like a sports hall to be completely silent when I give instructions.”

Hearing problems

Åke is sure that his hearing has deteriorated over the years, and suspects this is due to all the noisy sports halls he’s worked in. He has to ask, “What did you say?” many times during a working day. He also gets migraines more often...

“After a day working in a noisy environment I become hypersensitive to noise. I want to turn off all noise when I get home, and I feel really tired.”

Fabulous working environment

“Thank goodness – at last a sports hall with good acoustics. Fabulous!” says Åke. He has no doubts. “The noise level is not only lower. It’s also softer and doesn’t feel as damaging as in other halls where I’ve worked.”

The physical education teachers prefer not to wear hearing protection devices. Åke says that in order to hear what students say and give instructions in a poor acoustic environment, you need to wear custom-made earplugs. But it would cost the school a fortune to buy them for all the school’s six PE teachers.

“Our sports budget is limited,

and we don’t want to take such a large amount away from the actual sports activities, which take priority,” he says.

Hagaskolan’s sports hall is large enough for playing various ball games, such as volleyball and handball. It has an area of 23 x 43 metres and a ceiling height of roughly 8 metres.

According to Head Teacher Gunilla Eriksson, Hagaskolan – a school with a strong sports and health orientation – now has a better working environment for both PE teachers and pupils.



Acoustical engineer Anders Westin analysed the need for an acoustic makeover in the sports hall at Hagaskolan, and measured the acoustics afterwards. He comments:
“It’s like being on an outdoor football pitch instead of inside a sports hall with walls and a ceiling. The result is excellent.”

Photo: Lina Weller/Sandwalks Tidning



The problem was solved by a wall-to-wall acoustic ceiling and wall absorbers on three of the walls, at the height of the room occupants. All these components were in Class A, the best sound absorption class. Physical education teachers Johan Berman, Daniel Jonsson and Åke Grundberg are delighted with their new working environment.

High impact demands on corridor acoustic ceilings

Photo: Gunner Ahlberg

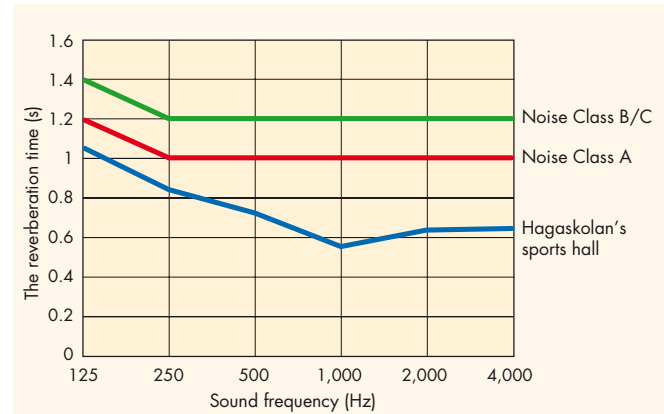


The corridors in Hagaskolan's new sports building now have a sturdy acoustic ceiling designed to withstand impact, shock and other damage in school corridors etc. It would be difficult for balls, bags and other objects thrown at the ceiling to move or damage the acoustic ceiling. The panels remain securely in position. The use of spring brackets ensures a hard-wearing ceiling, and allows the panels to easily be assembled or dismantled when work needs to be done above the acoustic ceiling.

This solution is highly appreciated by building administrators and maintenance staff in our schools.

At the advice of ceiling contractor Sundisol, the municipal authorities and the architectural firm Tema in Sundsvall chose the Ecophon Super G™ Dp XL acoustic ceiling for installing in the corridors. The system is available in lengths up to 2,400 mm.

The reverberation time in Hagaskolan's sports hall compared to Swedish standards.



According to the Swedish SS 25268 standard, Noise Class A denotes an excellent acoustic environment, while Class B/C corresponds to the minimum acoustic requirements in the requirements of the Swedish National Board of Housing, Building and Planning (Boverket). The measured results were far below the noise classes mentioned above. Perhaps this case study will serve as inspiration to raise the bar for acoustic standards in sports halls in future.

Architect

Hans Anders Kempe, Tema

Acoustic systems from Ecophon

- Ecophon Super G™ Plus
- Ecophon Modus™ S
- Ecophon Wall Panel™ Super G
- Ecophon Super G™ Dp XL