

Sustainable ventilation Schools and day-care centres



KE Fibertec ensures a good indoor climate in schools

Headaches, lack of concentration, unnatural fatigue, irritated eyes, odours and unmotivated children are some of the effects of a poor indoor climate in schools.

KE Fibertec has long experience in textile based ventilation for schools. It is not only in the classrooms that KE Fibertec's textile ducts will benefit the indoor climate. Textile ducting also applies to e.g. libraries, gymnasiums, conference rooms, large-scale kitchens and computer rooms.

For more information on ventilation in schools, please contact our sales department or go to ke-fibertec.com.

Why choose textile based ventilation?

- The indoor air quality requirements in classrooms have been intensified
- CO₂ <1000 ppm by end of class ultimately requires air volumes of 40 m³ per student, 20 m³ per m² floor area or 7 air changes per hour
- Draft- and noise-free air distribution with such requirements is very difficult to achieve with traditional supply air systems
- Full-scale tests show that low impulse textile ducts meet the requirements with a very good margin
- 33% higher ventilation efficiency. Average air velocity in occupied zones lower than 0.15 m/s. Noise level below 32 dBA



Case: Drammen High School

In connection with the refurbishment of Drammen High School, a full-scale test was established for testing different supply air methods. The tests were carried out by consulting engineer Dagfinn H. Jørgensen A/S in collaboration with the building administration department of Buskerud Municipality.

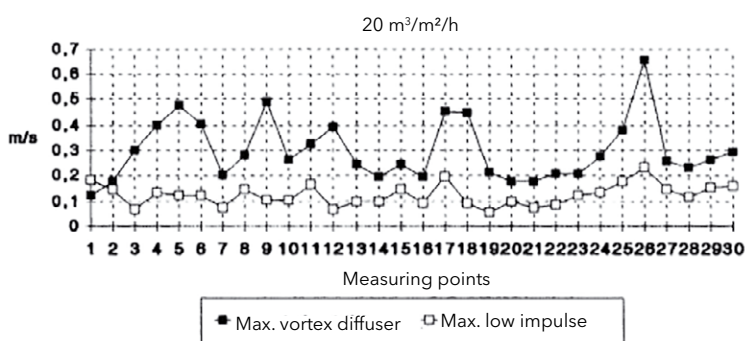
The sketch below shows current solutions with air vortex diffusers and low impulse textile ducts, respectively. The figures in the test report indicate that halfround low impulse textile ducts below the ceiling provide the best result.

- The air volume was 1200 m³/h which is equivalent to 20 m³/m²/h and 39 m³/h per person, respectively, or 7 air changes
- Low risk of draft problems with low impulse systems
- High ventilation efficiency with KE Low Impulse systems. The CO₂ level at end of class and with 31 persons was 760 ppm compared to 980 ppm with diffusers.

Conclusion of the report

We take the liberty of bringing an excerpt of the conclusion of the report based on the full-scale test:

- High air velocities in the occupied zone are easily perceived as draft
- With the relatively large volumes of air for classrooms (20 m³/m²/h), the requirement for controlled air movements in the occupied zone will be important
- The test shows that textile based ventilation ducts perform very satisfactorily in this context
- When it comes to CO₂ levels, this system is very efficient



Here are some of the schools with textile ducts from KE Fibertec:



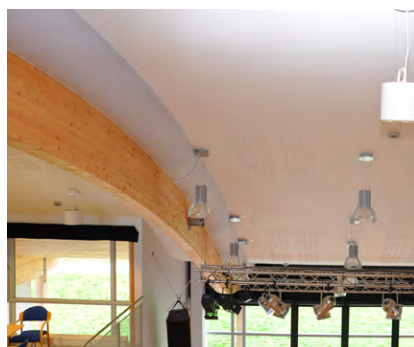
Ekhammarskolan, Sweden



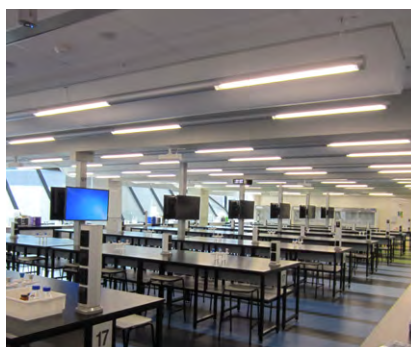
Hull University, UK



Høng Gymnasium, Denmark



Høbel Ungdomsskole, Norway



Monash University, Australia



Walkden High University, UK



Billy Bubbles, UK



Paul Mitchell School, USA



Drew Charter School, USA

For more documentation and reference photos, please go to **www.ke-fibertec.com**

