

Press release Oktober 2023

## **„Educational Campus Unna: Sustainability and Acoustics in Perfection“**

*[Image 1 – School building Educational Campus Unna]*

In today's world, school buildings must meet various requirements, including the needs of students and teachers, space requirements, technical demands, and the latest teaching methods. The Educational Campus Unna stands as an impressive example of educational promotion and sustainability. It was developed by Weicken Architects in Unna, with the support of various experts, such as the building services engineering planning by KaTplan GmbH and room acoustics planning by ITAB GmbH. This project, completed in December 2022, accommodates approximately 600 students from the Jakob-Muth School, the Sauerland-Hellweg College, and the Vocational College in the Unna district.

### **Architectural Masterpiece in the Heart of Unna**

The impressive new building, part of the Educational Campus Unna, covers a gross floor area of 7,700 square meters and impresses with its striking U-shaped design, primarily using brick as the main building material. This design not only establishes a clear identity and orientation but also creates a spacious forecourt and distinct entrance areas for both schools.

*[Image 2 – Classroom with Sorp 10® sound absorber]*

### **Room Design and Functionality**

The architectural concept of the Educational Campus Unna was carefully crafted to meet the specific needs of different types of schools. The Sauerland-Hellweg Vocational College ensures efficient space utilization through a straightforward and optimized structure. In contrast, the Jakob-Muth School features an impressive entrance hall serving as a central assembly and event space, forming the heart of the school.

Classrooms are designed to meet the needs of students across various age groups. The light-flooded rooms with glass facades and large windows create a pleasant learning environment. Even within the school, daylight permeates through open roof areas, providing naturally illuminated spaces.

*[Image 3 – Raw ceiling with cooling and heating pipes in combination with Sorp 10®]*

### **Sustainability at the Core**

The Educational Campus Unna not only pursues educational objectives but also ambitious sustainability goals. The building, constructed as a solid structure with a brick façade, is nearly CO<sub>2</sub>-neutral thanks to modern building technology. Particularly noteworthy is the

ice energy storage system, enabling energy generation through phase change. Concrete core activation is realized through an innovative ceiling ventilation system, utilizing pre-conditioned outside air for heating and cooling. By largely avoiding composite building materials, the building's recyclability is also taken into account.

### **A Model for Education and Sustainability**

The Educational Campus Unna impressively demonstrates how educational institutions can be designed in harmony with sustainability principles. This project not only embraces modern architectural design but also innovative technologies to contribute to reducing the ecological footprint. The Educational Campus Unna serves as a paradigm of how education and sustainability can successfully merge, creating an inspiring learning environment for students. It is a project that is pioneering both in architectural and ecological aspects, showcasing that education and environmental protection can go hand in hand.

*[Image 4 – Sound measurement in the classroom]*

### **Meeting the Highest Room Acoustic Standards**

To ensure successful teaching and learning, the acoustic conditions in the rooms had to meet the requirements of DIN 18041 "Acoustic quality in rooms." The acoustic experts from ITAB GmbH in Dortmund developed a concept consisting primarily of the following elements:

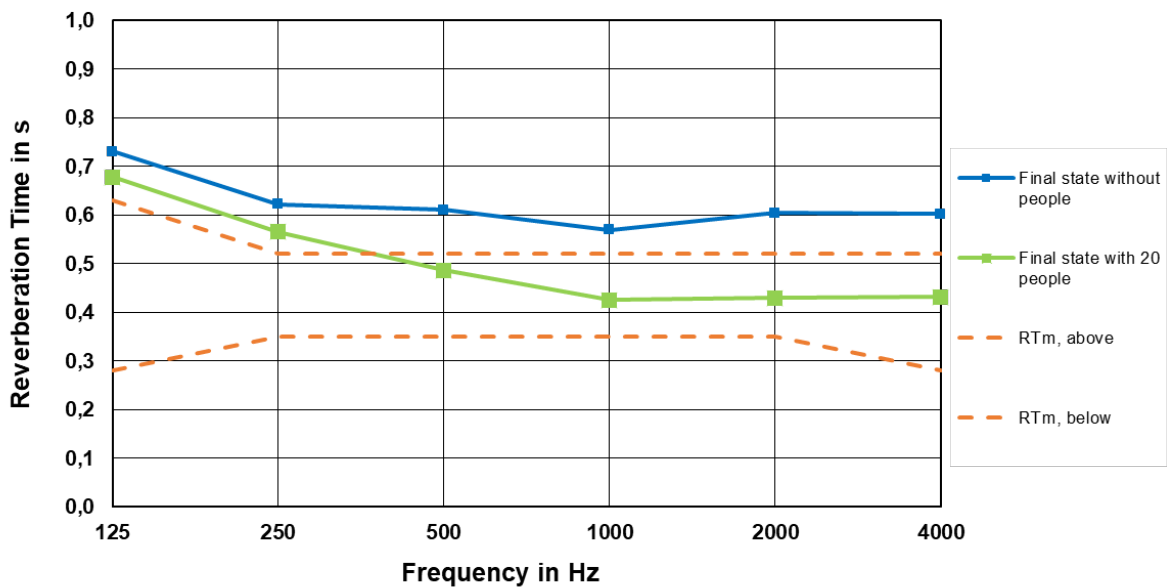
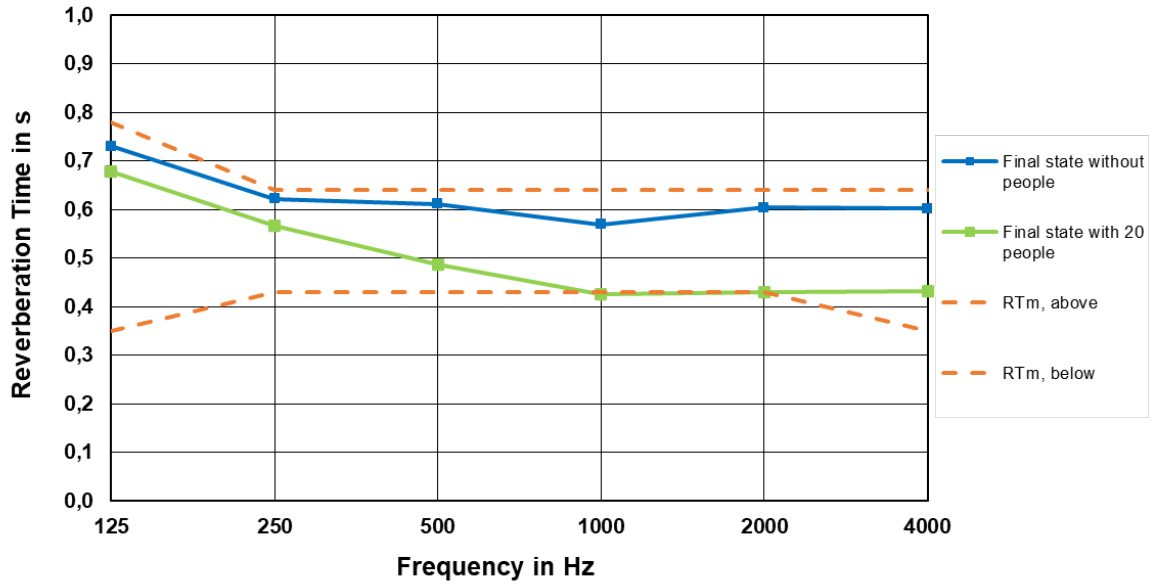
- Sorp 10® sound absorbers in the center of the ceiling
- Circumferential suspended ceiling ring made of perforated plasterboard
- Perimeter absorbers at the wall/ceiling junction made of perforated plasterboard
- Microperforated cabinet fronts

By optimally arranging and combining suitable sound absorbers, the strict requirements of DIN 18041 (for inclusion) could be almost completely met in the special education classes.

### **Requirements in accordance with DIN 18041 "Acoustic quality in rooms"**

Room type	Volume	Typ of use	Target Reverberation Time
Small classroom	161 m <sup>3</sup>	A3 Teaching/Communication Standard	RT = 0,54s (± 20%)
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### Graphics – Small classroom



### Summary

This innovative educational facility combines modern architectural design with ecological responsibility, creating an inspiring learning environment for students. The impressive room acoustic results achieved here further underscore the excellence of this project.

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Image 1:  
School building Educational  
Campus Unna  
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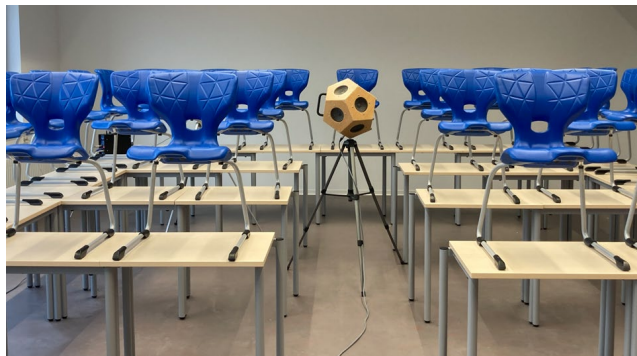
Image 2:  
Classroom with Sorp 10®  
sound absorber  
© MARVIN SCHWIENHEER



Image 3:  
Raw ceiling with cooling and heating pipes in combination  
with Sorp 10®  
© KaTplan, Münster



Image 4:  
Sound measurement in  
the classroom  
© MAX FRANK



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