GEBERIT

CASE STUDY:

ST MARY'S CALNE LIBRARY, WILTSHIRE

SOUND OPTIMISATION **WITH PROVEN ACOUSTIC PERFORMANCE**

→ **www.geberit.co.uk/silent-db20**

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CASE STUDY:

ST MARY'S SCHOOL, SOUND-INSULATING DRAINAGE SYSTEM

PROJECT OVERVIEW

St Mary's School is an independent day and boarding school in Calne, Wiltshire. Located on a 25-acre site, the new library will be built at the heart of the campus and will provide students with a state-of-the-art, progressive learning environment for the future. The layout of the internal space reflects a forward thinking environment, and the new facility will provide best practice teaching and learning to prepare students for higher education.

The building has been designed as a rectangular standalone pavilion modelled on an orangery, with an articulated timber cladded roof structure supported on steel columns that float over a more substantial masonry shell. The western elevation of the library, which faces a service road, will be solid to mitigate noise from the access route. Meanwhile, the eastern elevation is to be glazed to maximise daylight and views across the orchard. The library's entrance will be in the centre of the solid wall, providing clear views on arrival of the internal space and the landscape beyond.

CHOOSING GEBERIT

Central to the design of the drainage system is a number of solutions from Geberit which are ideal for the building's dynamic interior. Crucially, Geberit played a key role in informing all stakeholders on a solution to the unique project, recommending Geberit Silent-db20 - a low noise, simple to install and flexible drainage system with proven performance. The drainage system was specified to feed through concentric CHS columns internal to the building and to fulfil the niche aesthetic requirements and to keep the structure as clean as possible.

In addition to the design requirements, the building had a strong acoustic focus with much of the project based around acoustic optimisation of the rainwater pipes. Architects, Woods Bagot, specified Geberit Silent-db20 for the building's high-performance sound optimised piping solution. Made from mineral reinforced plastic, the high density of Silent-db20's individual components effectively reduce natural vibrations and noise; a crucial element to instilling a sense of calm in what will be a lively academic hub. As well as this, non-compressible rubber lined acoustic brackets reduce the transfer of structure born noise by decoupling the stack from the structure.

To enhance the acoustic properties of the rainwater system even further, the drainage pipe was concentrically clad with proprietary mineral rock fibre tubes lagged inside the concentric CHS steel column. These provide additional thermal insulation, mitigating risks of interstitial condensation. This provided the client with an 'off book' rainwater disposal system design, meeting all legislation, and importantly, conforming to regulation BS EN 12056.

With Geberit Silent-db20 the only electro-fusion weldable acoustic pipework system currently available, this also enables more complicated pipework sections to be prefabricated. The rodding eye is an essential component of any rainwater system and the pipe section containing this was prefabricated, to ensure that it was in line with the access opening built into the steel column during installation.

→ Project information

Location: Calne, Wiltshire, UK

Architects: Woods Bagot

Client: St Mary's School

Project Completion: January 2021

→ Geberit Know-How

Challenge: Requirement for a sound optimised drainage system that feeds through concentric CHS columns internal to the building and meet the niche design aesthetic, keeping the structure as clean as possible.

Solution: Geberit Silent-db20, a high-performance sound optimised piping solution. Made from mineral reinforced plastic, the high density of Silent-db20's individual components effectively reduce natural vibrations and noise; a crucial element to instilling a sense of calm in what will be a lively academic hub. As well as this, non-compressible rubber lined acoustic brackets reduce the transfer of structure born noise by decoupling the stack from the structure.

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DELIVERING THE SOLUTION

Discussing the specification, Project Technical Delivery Leader architect Gio Vettori from Woods Bagot, said: "With the project throwing up some unique challenges, the install of Geberit Silent-db20 provided a versatile and simple-to-fit solution that all stakeholders could get on board with.

"NOT ONLY WAS THE SYSTEM FAST AND SIMPLE TO INSTALL, BUT IT ALSO PROVIDED A NUMBER OF BUILT-IN NOISE MINIMISATION MECHANISMS THAT REALLY GOT TO THE HEART OF WHAT THE PROJECT WAS ALL ABOUT – A CUTTING-EDGE ACADEMIC HAVEN FOR STUDENTS.

"Another deciding factor for the Geberit specification was the level of support offered. Geberit was on hand with an extremely high level of detailed assistance, even travelling to the site to give a product training session to the install team."

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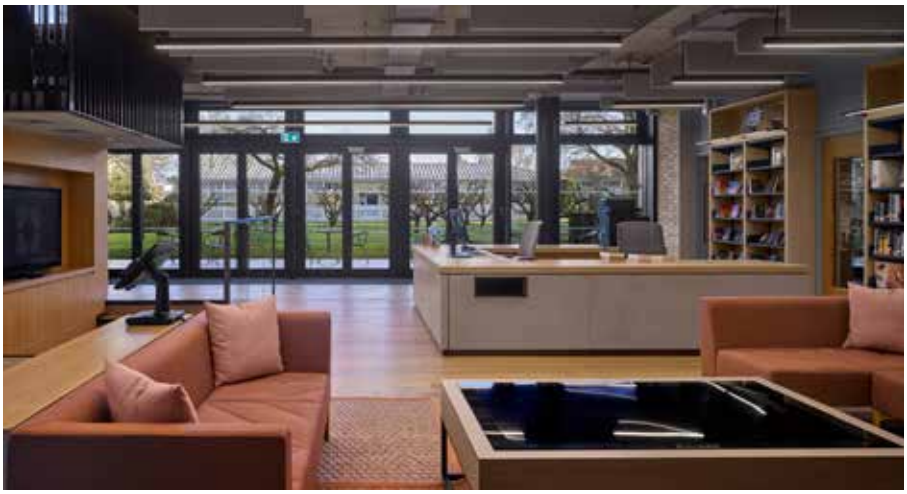

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