

Reference report

Ventilation grilles are a thing of the past: sound-optimized end element for ventilation ducts contributes to clean facade aesthetics

Since 2019, Schrobsdorff Bau AG has been working on the Waterkant construction project in the Berlin district of Spandau, where it is building around 1,000 new turnkey apartments - all equipped with decentralized

ventilation systems. The highlight here is the 1600 end elements for the ventilation ducts on the outer walls. The new LUNOtherm-S from LUNOS Lüftungstechnik GmbH, also based in Berlin, is being used for indoor air systems in the current construction phase. The narrow end element combines aesthetics and sound insulation in a special way: Due to its weight-reduced design, it can be integrated directly into the insulation to save space, which contributes to a pleasant façade appearance without disruptive ventilation grilles. At the same time, the special design prevents noise from the adjacent main road from penetrating. In order to keep installation simple when fitting many individual rooms, LUNOS placed particular emphasis on good handling during installation on site when developing the product. The low weight and simple plug-in mechanism also help to ensure that the installations in the wall are not impaired.

Ventilation grilles on the outside wall are often perceived as a disruptive element. In addition, the high building density in cities requires much better sound insulation performance from ventilation units than was the case 20 years ago or in rural regions. In order to meet this combination of aesthetics and sound insulation, the clients of the Spandau housing project opted for devices from LUNOS Lüftungstechnik GmbH for indoor air systems: the Silvento ec concealed terminal ventilators and the ALD external wall inserts are combined with façade elements from the LUNOtherm range. In order to meet the fire protection and sound insulation requirements specified in the project plan, sound-optimized end elements for the ventilation ducts are installed before the actual ventilators are fitted. "In the past, we could simply solve the ventilation problem using mechanical window rebate ventilators," explains Jochen Schneider, site manager at Schrobsdorff Bau AG and responsible for the fit-out of the current project in Berlin Spandau. "However, these do not keep out external noise due to the lack of filters and inserts. In such an environment, you need optimized decentralized ventilation systems that can combine sound insulation and comfort control. "The first-generation LUNOtherm products were still used in earlier construction projects," says Schneider. The new LUNOtherm-S - which is currently being integrated into over 500 apartments in the second construction phase - is significantly lighter and can therefore be more flexibly adapted to the insulation thickness. The ventilation opening is placed directly in the reveal or lintel so that it appears virtually invisible.

Invisible façade element ensures a grille-free look

The LUNOtherm-S is an EPP flat duct with the appearance of a large right angle with a grille on one side and a connection for 160 mm round ducts on the other. It is only 60 mm thick so that it can be easily integrated into the reveal and the ETICS.

Its low weight helps to reduce the load on the installations in the wall. The material nevertheless offers the necessary structural strength to hold the element securely in the insulation and to withstand the changing volume flows.

The low weight and adjustable standard size also make it easier to position the end element: "The individual components consisting of the right angle, grille and duct connection can be quickly plugged together," reports Schneider. "In order to achieve the required length or insertion height in the insulation next to the window, it can be easily cut to size beforehand." This means that it only takes one or two passes for every worker to internalize the principle. This means that significantly more end elements can be installed in one shift than with heavier and comparable solutions. In addition, work steps such as doweling, which are necessary with heavier variants in order to fix the component in the wall, are no longer necessary. The LUNOtherm-S, on the other hand, is simply inserted, glued accordingly and then encapsulated with insulating material so that the insulation is seamlessly connected. "There are different procedures, but they can be combined well with this variant," says Schneider.

Practical installation instructions to help on site

Easy handling on site is complemented by practical installation instructions that provide quick assistance on site in the event of any uncertainties. As with all new products from LUNOS, its engineers were present at the first construction projects to provide assistance and to directly record user experiences and incorporate them into the instructions and subsequent further and new developments. "With this construction project in Spandau in particular, we were able to make a direct comparison of different variants between the individual construction phases," explains Schneider. "The difference in the improved handling of the newly developed LUNOtherm-S is clearly noticeable." In addition to the actual installation, the handling also includes the construction site logistics, which are crucial for such large-scale projects. "As we first install the end elements for the ventilation ducts as part of the insulation work, we only order the pipe for the ventilation and the LUNOtherm-S at the beginning," explains Schneider. "The Silvento ec and the ALD will be delivered at a later date, as they should not be stored on the construction site to prevent possible damage. As with previous projects, we were always able to rely on punctual delivery and swift communication during the first construction phases in Spandau."

Profile: LUNOtherm-S

The facade element is made of EPP (expanded polypropylene). This material ensures good structural strength with very low weight and sufficient thermal insulation. Furthermore, it is 100 percent. recyclable.

The flat shape at a right angle ensures that the air and therefore also the sound are deflected by a further 90°, which results in greater sound insulation. A low weight and an adjustable standard size make handling easier in logistics and in the industry.

The LUNOtherm-S officially received its approval from DIBt, German Institute for Building Technology, on May 18, 2020. This makes it only the second facade element on the market with this status. The LUNOtherm received its first approval in 2005 in variants A and B. This means that the usability of the LUNOtherm-S has been proven in accordance with the national building regulations in thermal composite systems (ETICS) and can be installed safely in terms of safety, combustibility and suitability.



Picture Source: LUNOS Lüftungstechnik GmbH & Co. KG

Schrobsdorff Bau AG, founded in 1989, is a medium-sized construction company in Berlin. The focus is on turnkey residential construction and building existing buildings. This includes renovations of old buildings and listed buildings. The construction company also realizes commercial properties and public buildings of various dimensions. In addition to active construction implementation, Schrobsdorff offers project development from phase zero, starting with the location search and cost calculations through to implementation. The annual turnover amounts to around 100 million euros.

Originally founded in 1959 as LUNOS Lüftung, the company based in Berlin-Spandau brought the first passive outdoor air diffuser made of plastic onto the market in 1960. After various in-house developments in the ventilation sector, the company finally changed its name to LUNOS Lüftungstechnik GmbH for room air systems in 2002 under owner and managing director Ingo Volckmann. The first e²-fans with heat recovery were created in 2011 and the first ventilation control with touchscreen and e-ink display (TAC) in 2013. The manufacturer of innovative ventilation systems currently employs 116 people, including 14 engineers. The entire production is made in Germany in Berlin and Brandenburg. The products are sold via the three-stage distribution channel. Twelve industrial representatives and four other permanent employees provide support and advice to customers throughout Germany. LUNOS sells its products through 36 representatives around the world and generated sales of almost 40 million in 2019.

Picture Material:



Since 2019, Schrobsdorff Bau AG has been working on the Waterkant construction project in the Spandau district of Berlin and is building around 1,000 new apartments here - all equipped with decentralized ventilation



As part of the construction project, 1,600 LUNOtherm-S finishing elements will be installed for the ventilation ducts on the outside walls.



Due to its weight-reduced design, it can be integrated directly into the insulation to save space, which contributes to a pleasant facade appearance without annoying ventilation grilles



The facade element is only 60mm thick, so that it can be easily integrated into the reveal and the WDVS. The material offers the necessary structural strength to hold the element firmly in the insulation and to withstand the changing volume flows



The facade elements of the LUNOtherm series are combined with the Silvento ec concealed clamp vents and the ALD external wall inserts.



The narrow end element combines aesthetics and sound insulation in a special way. When installed correctly, it contributes to a pleasant facade appearance.



„In the past, we could simply solve the ventilation using mechanical window rebate ventilators.“, explains Jochen Schneider, construction manager at Schrobsdorff Bau AG. „However, due to the lack of filters and inserts, these do not keep out external noise.“

About LUNOS

Founded in 1959, [LUNOS Lüftungstechnik GmbH & Co. KG](#) is the global market leader for ventilation technology and serves an international customer base in the private and commercial sectors. The company's focus is on decentralized residential ventilation, with heat recovery systems, smart home equipment and a wide range of accessories also forming part of the product range.