

KNOW -HOW

■ GEBERIT

FACULTY OF FINE ART IN BERGEN

A MELTING POT FOR CREATIVE MINDS

SETTING TRENDS IN MILAN

A HUB FOR DESIGNERS

CUSTOMER
MAGAZINE
SEPTEMBER
2018



ON THE COVER

The new Faculty of Fine Art, Music and Design at the University of Bergen was designed by the renowned Oslo-based architecture firm Snøhetta.

ON THE COVER

In April each year, everything in Milan revolves around beautiful design. Geberit caused quite a sensation in the city centre at "Fuorisalone".

NUMBER OF COPIES

5,000. Issued: quarterly.
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DESIGN AND REALISATION

Linkgroup AG, Zurich
www.linkgroup.ch

PHOTOS

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DEAR CUSTOMERS,

IT IS NORMALLY THE PLUMBER WHO TAKES CARE OF THE FINAL STEPS IN A NEW BATHROOM. THIS IS USUALLY A SPECIAL MOMENT.

On the one hand, this is because the moment of truth sometimes only comes right at the very end once the washbasin and the WC ceramic appliance are installed, the taps are connected and the mirror cabinet is attached to the wall. This is when we see whether all the specialists working on the project have planned correctly and carried out their work with the required precision.

On the other hand, this is because it now becomes clear for the first time whether the bathroom's design and furniture and fittings are coherent. Every centimetre counts, particularly with smaller bathrooms. A well-thought-out floor plan pays off here in several ways, whether ensuring the availability of shelf surfaces and storage space or good accessibility to all glass, wall and floor surfaces. The latter in particular is decisive when it comes to easy and thorough room cleaning and therefore very important, especially since cleanliness in the bathroom remains at the top of the list of end user requirements.

We wish you an enjoyable read.

EXPLORING THE LATEST DESIGN TRENDS

GALA IN MILAN



During "Fuorisalone", Geberit caused quite a sensation at Palazzo Kiton with the exhibition "Rooms" by the designer Sergio Brioschi.

→
At the Milan furniture fair, you can also discover current kitchen and bathroom trends.



The Milan furniture fair is as important for architects, industrial and interior designers as the ISH in Frankfurt am Main is for the sanitary and heating industry.

In April each year, everything in Milan revolves around beautiful design. This is something of a tradition, with 2018 seeing the "Salone del Mobile" being held for the 57th time. The world's most important furniture fair once again proved a crowd-puller, with almost 450,000 people attending the six-day event. Over 1,800 exhibitors presented their companies and their products, with both figures setting new records!

THE KITCHEN SHOWS HOW IT'S DONE

The pull of the "Salone" is so great that dozens of other trade fairs have set up around it over the years. For example, in addition to finding out what's all the rage in the world of furniture, you can also learn more about current kitchen and bathroom trends. When it comes to innovative design, the kitchen is one step ahead of the bathroom. This is hardly surprising, after all, the kitchen has long been seen as the nerve centre of home and family life, whereas the bathroom is still in the process of establishing itself as the private oasis of well-being. In Milan, the kitchen's edge over the bathroom is particularly evident in the highly innovative selection of colours and surfaces. →



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Despite limited space, the larger of the two shipping container homes has a separate WC equipped with a Geberit AquaClean Mera shower toilet.



↑
Despite its modest size of 3 m², the bathroom in the smaller container impresses thanks to its exceptional level of comfort. This is in no small part down to the shower with the Geberit CleanLine shower channel.

IN THE HEART OF THE CITY

The fact that kitchen, bathroom and furniture manufacturers are found side by side in no fewer than 20 exhibition halls is one of the reasons why Milan is considered the design capital of the world. Another reason can be found in the centre of the metropolis. When those attending the "Salone" return to the city in the evening, numerous studios and boutiques as well as the showrooms specially set up in historical buildings for the occasion await them. At "Fuorisalone", the boundary between product presentation and art installation is fluid – you have to come up with something special if you want to stand out here. While the historic centre has a classic ambience, the Tortona district is all about experimentation and features young exhibitors and a young audience.

ALL GOOD THINGS COME IN THREES

Geberit has been attending the "Salone" with its Italian ceramics brand Pozzi-Ginori for many years. True to the new slogan "Design Meets Function", the focus here is on the additional benefits offered by the products. However, the "Fuorisalone" is used as a stage too, with Geberit causing quite a sensation this year at Palazzo Kiton with the exhibition "Rooms" by the designer Sergio Brioschi. Furthermore, as a guest and supplier of Containerwerk – a new start-up based in Stuttgart – the Geberit subsidiary Huter from Austria also played its part in a widely acclaimed presentation in the Tortona district.



In Milan, Containerwerk presented two high-quality design variants for standardised 40-foot shipping containers. The sanitary rooms, which were designed as prefabricated bathroom solutions in close cooperation with Geberit Huter, attracted a lot of attention here.



LEADING THE WAY IN GREEN LOGISTICS

“Ecological progress while also increasing efficiency – this is Geberit’s goal and motivation. The Geberit logistics centre in Pfullendorf combines efficiency and ecology in exemplary fashion.”

Gerd Hallfinger,
Managing Director of Geberit Logistik GmbH, Pfullendorf (DE)

Logistics – one of Geberit’s core competencies

The video gives an insight into our logistics centre in Pfullendorf.



In logistics, we have been attaching equal importance to both ecology and efficiency for many years. The logistics centre in Pfullendorf (DE) therefore also sets standards when it comes to green logistics.

Clever logistics benefits everyone – our customers, our sales partners and our production plants. We therefore made logistics one of our company’s core competencies years ago and centralised distribution in the southern German town of Pfullendorf.

PERFECT INTERACTION

In order to ensure that all processes run smoothly, we focus on automated work steps and progressive technology. This technology is used wherever it makes fi-

ancial sense and helps our employees to carry out their work efficiently, safely and in an ergonomic manner. For example, intelligent voice control ensures that the staff at the pick-and-pack stations have their hands free when putting together and consolidating the products. Built-in lift tables and lifting devices make things easy on the back when handling heavy goods. Touch screens, laser scanners and scales ensure speed and reliability when order picking.

WORKING TOGETHER TO REDUCE CO₂ EMISSIONS

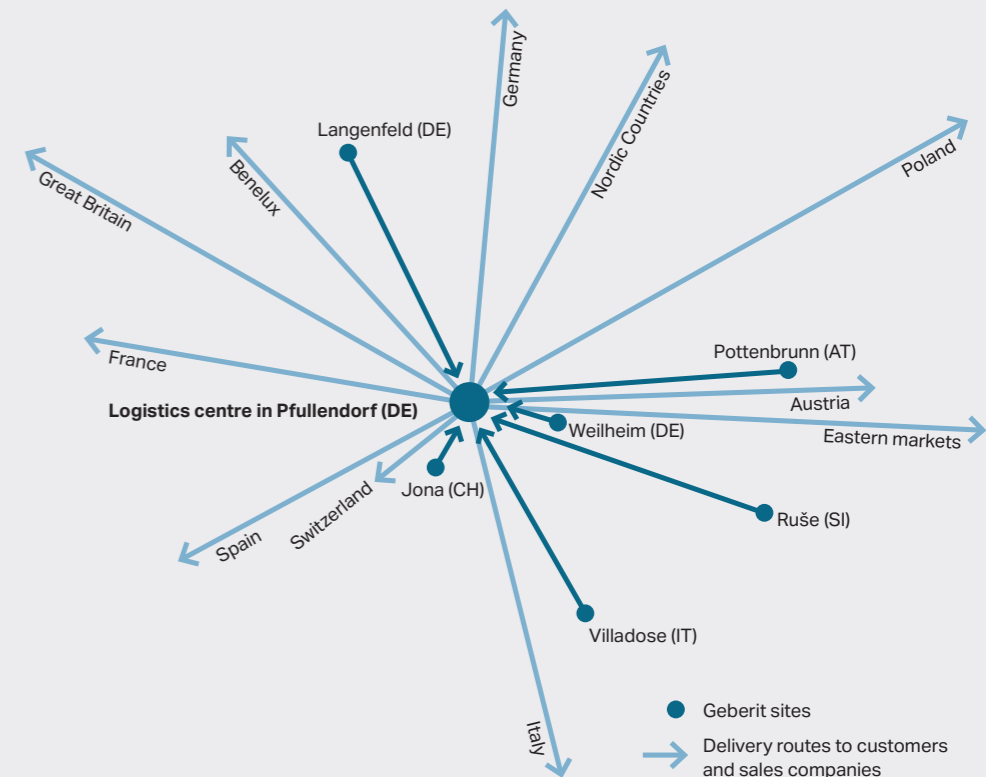
When it comes to logistics, our responsibility goes far beyond what we do within the company. We therefore select our logistics partners according to clearly defined quality criteria. And we go one step further, contractually obligating shippers to support us in our efforts to use energy efficiently and reduce CO₂ emissions. As a result, 97% of vehicles from our shipping partners’ entire truck fleet comply with the Euro 5 and Euro 6 emission standards. We also have access to the environmental indicators from the annual reports of our largest logistics partners.

Whenever appropriate, we also try out other ways of reducing CO₂ emissions such as increasing transport by rail, using trucks with an alternative drive technology such as natural gas or optimising loading capacity with technical equipment.

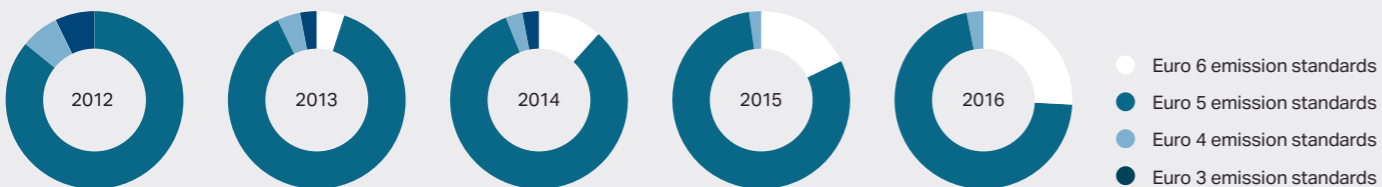
BUNDLED TOGETHER TWICE OVER

Pfullendorf is the perfect hub for Geberit’s distribution – both for our customers as well as for our European production plants. The products are bundled together at the plants and transported by truck to Pfullendorf, where they are received and professionally stored. At the logistics centre, coordinated processes guarantee absolute reliability, on-time deliveries and the best possible service for customers and sales companies alike. In addition to bundling the orders together, we also offer our customers flexible additional services. For example, we deliver small parts as express shipments and deliver large shipments directly by truck.

Hub: logistics centre in Pfullendorf



Truck fleet mix





CAREFUL PLANNING MEANS LESS CLEANING

A CLEAN BATHROOM

←

The less grouting and fewer edges a bathroom has, the easier it is to keep clean.

→

The washbasin area, shower and toilet are particularly demanding when it comes to cleaning.



Clever functions and stylish design are important in a modern bathroom. However, for building owners, an easy-to-clean bathroom is much more important. Careful planning is key here.

87 per cent of Germans and a massive 98 per cent of Swiss citizens find cleaning and cleanliness important. However, surveys from cleaning agent manufacturers show that bathroom cleaning is very high on the list of the most unpleasant cleaning tasks. Manufacturers of sanitary products should therefore make life as easy as possible for their customers.

PARTY POOPERS

But what actually makes bathroom cleaning so tedious? Peter Kunz, Head of Industry Courses at Allpura, the association of Swiss cleaning companies, cites several reasons for this: "On the one hand, this is down to the great deal of effort involved. After all, a lot of work in sanitary facilities has to be done by hand, and it is not always possible to use machines to their full potential. On the other hand, trendy bathroom designs – such as those featuring mosaic tiles and lots of grouting – tend to make efficient and thorough cleaning difficult." What's more, urine deposits in the grouting very quickly lead to unpleasant odours.

Large, smooth tiles and minimal grouting are therefore recommended. "The grouting in particular quickly starts to stink if it is not carefully cleaned," explains Peter Kunz. Areas that are difficult to access, nooks

and crannies and shelf surfaces that are crammed with bathroom accessories also make cleaning a chore. The foundations for convenient cleaning can therefore be laid by taking care when planning the room.

TECHNOLOGY BEHIND THE PREWALL

Prewall systems are a good and proven method when it comes to designing a well-laid-out sanitary facilities that is easy to clean. The advantages are clear. Firstly, the cistern – often a classic dust trap – and almost the entire sanitary technology are behind the wall. Prewall systems can be panelled and tiled, enabling them to fit seamlessly into the sanitary facility.

Furthermore, because power connections can be hidden from view, a shower toilet can be supplied with electricity without any cables showing. In a nutshell, prewall solutions offer a great deal of creative freedom and eliminate inaccessible and therefore difficult-to-clean areas.

WALL-HUNG SOLUTIONS FOR UNCLUTTERED FLOORS

Wall-hung WCs are standard nowadays because they make sanitary facilities easier to clean. →

“Up to 50 m² of bathroom space can be perfectly cleaned in one hour. This increases significantly – to between 200 and 300 m² per hour – when it comes to cleaning office space.”

Peter Kunz,
Head of Industry Courses at Allpura, the association of Swiss cleaning companies



TIPS FROM A SPECIALIST

Automatic flushing systems have to be overrideable. If the urinals flush or water flows from the washbasin taps every time the sensor is activated, you waste cleaning agents and therefore don't achieve the desired cleaning result. Switches or sensor commands that temporarily switch off the system remedy this situation.

Sanitary appliances need to be regularly flushed with sufficient water. Deposits quickly adhere to the traps and ceramic sanitary appliances if the urinals and toilets are not used much. And deposits make cleaning more difficult. Regular flushing with sufficiently large volumes of water is therefore recommended.

Easy-to-remove and easy-to-clean toilet brush holders. The residual water in the holders soon begins to stink. Cleaning must therefore be easy and the holders must be easy for the cleaner to remove. Tiled or trendy but impractical holders are nothing but a hindrance.

Avoid grouting. If you already have a pre-wall, then use tiles that are as large as possible and are installed flush with each other. This leads to less grouting where dirt and germs can accumulate. And the whole thing can be efficiently cleaned in one go.

With wall-hung WC ceramic appliances and wall-hung bathroom furniture, it is easy to clean the entire floor in one go. However, the devil is sometimes in the details here, explains Peter Kunz: “We use cleaning machines to efficiently clean public facilities. But these often need more room under the toilet than what's available. A distance to the floor of around 15 cm would help a lot here.” And if a pre-wall is being installed, it makes sense to install a room-height one so that the wall surface is also cleaned in just one wipe.

THE BOWL IS KEY

Another key aspect when designing a bathroom is the choice of the WC ceramic appliance. Rimless toilets are not just stylish, they are also particularly easy to clean. “One of the main things that make cleaning WC flush rims and urinals really difficult is limescale from the mains water,” explains Peter Kunz. “It deposits on the otherwise easy-to-clean glaze and makes it rough.” And it is precisely these deposits that form the basis for an unhygienic appearance and make it much easier for stains to adhere to the surface. Therefore,



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Floor-standing WC ceramic appliances and exposed cisterns are far from optimal in terms of cleaning.

←
Geberit Rimfree toilets manage without any kind of flush rim, which greatly simplifies cleaning.

the simpler the ceramic sanitary appliance and the fewer interruptions in its surface, the easier it is to avoid limescale and deposits.

THE TAP CHALLENGE

It is a sight to behold when the chrome-plated taps, drains and traps are clean and sparkling. However, as soon as drops of water land on the chrome parts, limescale rings become visible. The work therefore has to be carried out very carefully here. The chrome-plating of plastic parts represents a challenge for manufacturers. For example, if the radii on the traps are too tight, this can cause the applied metal to chip off.

The second challenge is the water flow. “On electronic taps, it must be possible to deactivate the sensor so that the water only flows when it's supposed to during cleaning. And if it is a deck-mounted tap, it is exposed to standing water the whole time,” explains Peter Kunz. Wall-mounted taps are therefore advantageous. Standing water is not an issue here, and the fact that they are mounted on the wall – with no joints or nooks and crannies – also makes them extremely easy to clean.



Peter Kunz,
Head of Industry Courses at Allpura, the association of Swiss cleaning companies

THREE QUESTIONS FOR THE PRO

Cleaning the bathroom is not the most popular pastime in the world. What do you think manufacturers like Geberit can do to make this chore as pleasant as possible?

Manufacturers shouldn't overly focus on design or the latest trends. There are many products out there that are easy on the eye yet completely impractical when it comes to cleaning. And for us building cleaners, impractical means we need to spend more time on the job, which in turn means higher costs for the operators.

When you inspect a bathroom for the first time before a contract is awarded, what areas cause you the most concern?

In terms of efficiency, it is mostly the difficult-to-clean areas that cause concern, plus the areas that we cannot clean with machines. This is particularly the case when these areas are critical for hygiene. For example, too much grouting, where unpleasant odours can develop, or intricately designed areas around urinals and toilets.

What in your view are the worst mistakes when planning a bathroom?

The biggest mistakes often arise from impractical floor plans, resulting in areas that are difficult to reach or where cleaning machines can't get to. Put simply, it takes more time to perfectly clean a bathroom full of nooks and crannies or with an intricate design.

HIDDEN MAINS CONNECTION FOR SANITARY APPLIANCES

SIMPLY PLUG IN

It is often the little things that make life easier. This is certainly the case with the Hirschmann connector, which is now a standard item of equipment with current-operated Geberit appliances for creating a hidden, standard-compliant mains connection.



A tidy and elegant solution: thanks to the Hirschmann connector, it couldn't be any easier to connect the AquaClean Tuma WC enhancement solution to the power supply system. The mains and water supply connection remain hidden.



↑
The Geberit Monolith Plus sanitary module is factory-equipped with a Hirschmann power socket.



↑
The Hirschmann connectors meet all requirements for use in bathrooms.

New buildings and extensive building renovations are projects that often involve a dozen different trades. The transitions between these trades are sometimes very clearly regulated, such as between the plumber and the electrical fitter. In modern bathrooms – where more and more appliances are being connected to the power supply system – this can result in considerable coordination effort.

EUROPE-WIDE APPROVAL

Inspired by feedback from numerous plumbers, Geberit looked for the most practical solution possible for connecting shower toilets, Monolith Plus sanitary modules, urinal flush controls and other appliances to the power supply system. The priorities here were twofold: firstly, when installing the appliance, it should be as easy as possible for the plumber to connect it to the power supply system without an electrician needing to be present. Secondly, all Geberit appliances are to be equipped with the same connectors.

Geberit evaluated various options before opting for the connector from the German manufacturer Hirschmann. This connector is approved throughout Europe, widely used and meets all the necessary requirements for use in bathrooms.

HIGH SAFETY REQUIREMENTS

Geberit appliances have been factory-equipped with Hirschmann connectors for around a year now. The matching counterpart, which is included with the appliance, can be given to the electrician so that they can prepare the hidden mains connection. When in-

stalling the shower toilet or the Monolith Plus sanitary module, the plumber then only has to plug in the cable prepared by the electrician and can then put the appliance into operation.

In most European countries, the electrician is responsible for ensuring that all power sockets and all lighting and appliance connections in a building are installed safely as well as perfectly from a circuit engineering perspective. Particularly in the bathroom – a room that often has high levels of humidity and where spray water is normal – the mains connections have to meet more stringent safety requirements.

HOTEL TWENTYSEVEN, AMSTERDAM, THE NETHERLANDS

A GEM IN THE HEART OF AMSTERDAM



GEBERIT PRODUCTS

AquaClean Mera shower toilet

Sigma60 actuator plate

CleanLine shower channel

Silent-db20 building drainage system

Preda urinal ceramic appliance

The exclusive bathrooms also feature an AquaClean Mera shower toilet.

The impressive red-brick building of Hotel TwentySeven shapes the cityscape in the heart of Amsterdam.



Interview with Armand Gademan,
Geberit Hotel Account Manager (NL)

EASY MAINTENANCE AND VERY GOOD CUSTOMER SERVICE

Mr Gademan, you looked after the TwentySeven hotel project and worked closely with Eric Toren. What prompted him to opt for the Geberit AquaClean Mera?

Eric Toren had known the shower toilets from Geberit for many years and was impressed by the quality and the technical innovations. He had the shower toilet AquaClean 8000plus installed in all rooms in his first hotel, The Toren. When he discovered the AquaClean Mera at an event in Switzerland, he was so impressed that he decided to fit them in his latest hotel, TwentySeven. After all, it is consistent with the high luxury standard and comfort of the hotel in every respect.

Were there any special challenges during the installation work?

Although the hotel is not a new construction and the project involved the complete renovation of the building, we didn't have to overcome any major technical challenges. As the sanitary installations also had to be renovated, we were able to precisely adapt the sanitary technology – such as the water supply and mains connections for the shower toilets – to the new requirements.

What role did the customer service offered by Geberit play in the decision to purchase this product?

The hotel owner and the designer were already familiar with the quality and reliability of Geberit shower toilets from The Toren. They also knew that the AquaClean Mera's rimless ceramic appliance is a very low-maintenance shower toilet. Last but not least, Eric Toren was also aware of the excellent service that Geberit offers its customers around the clock. The hotelier knows that he will not be left high and dry by Geberit in the event of a problem.

At the end of 2017, Hotel TwentySeven – one of the most luxurious hotels in the Netherlands – was opened. The elegant boutique hotel is located in the heart of Amsterdam's historic centre on Dam Square, right across from the Royal Palace.

Built in 1913, the art nouveau building was originally home to the Royal Industrial Club, and for decades was a place for its members – industrial magnates and entrepreneurs – to meet up.

Eric Toren, the hotel owner, commissioned the Dutch designer Wim van de Oudeweetering to convert the listed building and ensure the six-star hotel offers maximum comfort and luxury. However, with TwentySeven, Eric Toren wants to offer his international guests more than just a hotel, with the perfect combination of top-class cuisine, wellness and design aimed at creating an experience that appeals to all the senses.

The exceptional hotel offers a total of 16 exquisite hotel rooms, ranging from 45-m² suites to a 219-m² luxury suite boasting three bedrooms, three bathrooms, three Jacuzzis and a private terrace. All the details of the elegant and exclusive interior were carefully selected and harmoniously coordinated with one another. The spacious bathrooms are fitted with elegant features such as marble and mosaics. In order to offer its international guests maximum comfort here too, the elegant shower toilets AquaClean Mera from Geberit were installed in all bathrooms and guest WCs.



Thanks to a comprehensive range of fittings, the highly sound-insulating building drainage system Silent-Pro can easily cope with any connection situation.

→
Jukka Hakanen (left), customer consultant at Geberit Finland, discusses how to professionally install Silent-Pro fittings with the two plumbers Petri Burman (pictured centre) and Arto Korhonen (pictured right).



SOPHISTICATED SOUND INSULATION

PEACE AND QUIET GUARANTEED

When planning modern drainage systems, it is essential that thought be given to noise containment. North Karelia Central Hospital in Joensuu (FI) therefore took advantage of a partial renovation of its facilities to improve the sound insulation of the discharge pipes.

North Karelia Central Hospital in Joensuu, a small city to the north-east of Helsinki, provides the inhabitants of its 14 member municipalities from the North Karelia region with emergency healthcare services. The North Karelia region has a population of around 169,000. The hospital, which was built in 1953, has 120 in-patient rooms.

At the beginning of the year, the hospital set about renovating the B wing, which is home to the Department of Neurology and around 20 patient rooms. The wing was closed and the department was relocated during this work, which ran on until mid-summer. Renovation work is not uncommon in buildings that have been in operation for over 60 years. Petri Burman, the Managing Director of WP-Putki Oy, the leading installation company working on the project, was responsible for replacing the old drainage system. "The old cast-iron pipes were already rusted through and leaking at some points," he explains.

SOUND-RELATED CHALLENGES

Given that peace and quiet promotes patient recovery, the renovation came at just the right time. After all, hospitals can often be hectic environments, meaning it is all the more crucial that sound insulation and acoustic solutions that reduce the noise level to a minimum are used in the treatment and patient rooms. Such solutions are therefore an important issue nowadays when planning new buildings and renovations – and North Karelia Central Hospital was no different in this respect.

"The drainage system in particular poses sound-related challenges that require special solutions," explains Jukka Hakanen, Regional Sales Manager at Geberit Finland. During the renovation, he was on hand to advise and support the plumbers. If the transmission of structure-borne and airborne sound to the building is not considered in the planning process, this can have undesirable consequences afterwards in terms of sound. Particularly at night – →



Arto Korhonen, a plumber at WP-Putki Oy, tests whether the pipe brackets are securely attached. Optimal sound insulation can only be achieved if the Silent-Pro pipe fastenings are correctly attached to the building structure.

when even the slightest noise can disturb you – the flushing of a toilet can deprive a patient of sleep.

Professionally installed highly sound-insulating piping systems, such as the Silent-Pro, counteract this problem. With the new drainage system from Geberit, the outstanding sound insulation is achieved by the high inherent weight of the product material, increased wall thicknesses at the impact zones on the fittings as well as a consistent decoupling from the building structure.

A CONVINCING PRODUCT

It was exactly these characteristics that convinced Jouko Ryyanen, the hospital's in-house engineer, who oversaw the renovation. "In Silent-Pro, we have found a drainage system that meets the special requirements of a hospital environment," explains Jouko Ryyanen. However, he's not the only person who was won over by the system, the plumbers were also pleasantly surprised. "This was the first time that

we've installed Silent-Pro. The installation went without a hitch," confirms Petri Burman. And that's not all: "We were able to count on Jukka Hakanen's support at all times," adds the plumber.

During the renovation, several hundred metres of Silent-Pro pipes were installed for stacks and floor connections. To prevent the transmission of structure-borne sound, the pipes were fixed to the building structure using sound-decoupled system pipe brackets from Geberit. The plumbers used special adapter clamping connectors for connecting the Silent-Pro pipes to the old cast-iron pipes.

A HIGHLY SOUND-INSULATING DRAINAGE PLUG-IN SYSTEM

DEVELOPED FOR EVERYDAY OPERATIONS ON BUILDING SITES

Installing a piping system usually means working with heavy tools, either on top of a ladder or kneeling close to the ground. These issues were taken into consideration when developing the highly sound-insulating drainage system Silent-Pro.



↑

The highly sound-insulating building drainage system Silent-Pro is well thought out down to the last detail and is therefore easy to install.

A sanitary professional would say that an ideal system fulfils all relevant fire protection regulations and sound insulation guidelines while also being well thought out down to the last detail in terms of installation technology. Geberit took everyday life on the building site into consideration when developing the Silent-Pro drainage system. The result: a highly sound-insulating system solution that convinces in every respect.

A PRACTICAL TOOL

With Silent-Pro, the plumber easily, quickly and efficiently connects the pipes using push-in connections. Special indentations highlight 30° angles and assist with the alignment of the fittings. The integrated grasping ribs are not a design element but a feature added to aid handling of the compact fittings. The durable seal ring consists of particularly pressure- and UV-resistant EPDM and is inserted on the inside of the pipes and fittings in such a way that it cannot come loose inadvertently.

The fittings' compact design means that they can be easily processed even in confined spaces. The depth of the sockets is nevertheless very generously dimensioned. And thanks to the stop ring, the plumber can check with the naked eye how deep a fitting is inside a socket. Cumbersome measuring and marking is no longer required. The stop ring also comes with another benefit – it protects the sealing surfaces from mechanical damage when storing and transporting the fittings on the building site.

THOROUGHLY TESTED

Prior to its market launch in 2016, Silent-Pro was put through its paces in the building technology and acoustics laboratory in Rapperswil-Jona. In cooperation with the renowned Fraunhofer Institute, Geberit engineers ascertained the sound levels for more than 50 realistic construction situations in accordance with DIN 4109. The results confirmed that a professionally installed Silent-Pro system complies with the strict EU limit values with room to spare.

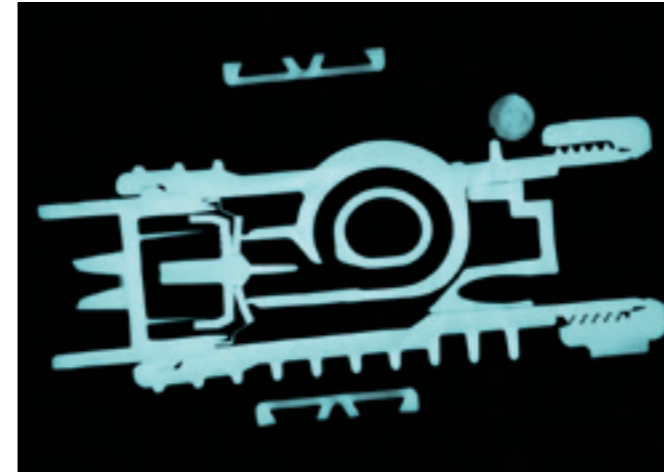


Hüseyin Öksüz, Head of the measuring laboratory at Geberit's Rapperswil-Jona site, opens the CT scanner's heavy, radiation-proof casing.

QUICK AND PRECISE

A LAB THAT MEASURES UP

In spring 2018, Geberit International put a CT scanner into operation in the measuring laboratory at the Rapperswil-Jona site. However, this system only has very little in common with the X-ray machines used in the field of medical technology.



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Within just a few minutes, components such as a fill valve can be X-rayed and shown on the display in all detail.

In order to ensure consistently high product quality, nearly all Geberit production sites have small or large measuring laboratories where the quality of samples from mass production is tested. Because the Group's central product and technology development is also located at the Rapperswil-Jona site, this measuring laboratory performs extended services using special measuring equipment and state-of-the-art measurement technology.

NON-DESTRUCTIVE ANALYSIS

It takes just under ten minutes for the CT scanner to measure the entire plastic housing of a flush valve. The data collected during this process is converted into a 3-D model by high-performance computers and displayed on a screen. This not only shows the inner and outer geometries of the complex component, but also all wall thicknesses as well as any irregularities in the plastic.

"To carry out comparable measurements, we sometimes used to have to cut open the parts that were to be measured," explains Lothar Stockmann, Head of Process Engineering at Geberit. "Calculating the required measurement data was also a relatively time-consuming process." With the CT scanner, this process is non-destructive and can be carried out much quicker and more precisely; the data from the measurement can be directly compared with the CAD model and the deviations can be represented graphically.

A POWERFUL SYSTEM

The system, which weighs in at just under 10 metric tons, performs very valuable services for the process engineers. For example, they can use it to quickly ascertain whether the parts manufactured using a new injection mould are true to size throughout and do not have any imperfections. "When the viscous plastic is injected into an injection mould under high pressure, spreads in the mould and is then cooled there, completely different processes are carried out in chronological order," explains Lothar Stockmann. "Although we can simulate these on the computer, we only know for sure whether everything is spot on when we measure the parts from the first pilot series."

The CT scanner's X-rays have enough energy to penetrate plastic parts with a thickness of up to 250 mm or sanitary ceramic with a thickness of up to 60 mm. The time required for measurement varies from ten minutes for smaller parts to several hours for large parts and very thick materials.

FACULTY OF FINE ART, MUSIC AND DESIGN (KMD), BERGEN, NORWAY

MEET AND CREATE

The new building, which is around 15,000 m² in size, is home to six institutes that were previously spread all over Bergen.



← The faculty has 32 specialist workshops for various art disciplines.

Following Grieg Hall, the Faculty of Fine Art is the second-largest cultural institution in Bergen. As a place for meeting and holding events, the goal is for it to become a lively new hub in the district of Møllendal.

The 19,000 m³ project hall is at the heart of the new Faculty of Fine Art at Bergen University. The versatile space can be used by the young artisans and artists to present their works to an interested audience.

WHERE OPENNESS IS KING

The project hall has a large glass front that faces out onto a public square. As the concept from Snøhetta signals, there is no fear of contact here. Around the hall, 32 modern workshops house the whole range of arts and crafts, from woodwork and ceramic design right through to a recording studio.

FROM ROOF TO TANK

The creative rooms are consciously kept functional and austere. Inside the building, there are plenty of quiet areas where administrative tasks can be completed and meetings can take place. Below the terrace – where a cafe is located – a tank has been installed that can be filled with up to 90 litres of rainwater per second. Thanks to the Geberit Pluvia roof drainage system, this rainwater is drained efficiently from the 4,100 m² roof.

KMD

Building owner: Statsbygg

Architecture: Snøhetta, Oslo

Completed: October 2017

GEBERIT KNOW-HOW

Geberit Pluvia roof drainage system

Geberit Silent-db20 drainage system

Geberit Mepla supply system

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