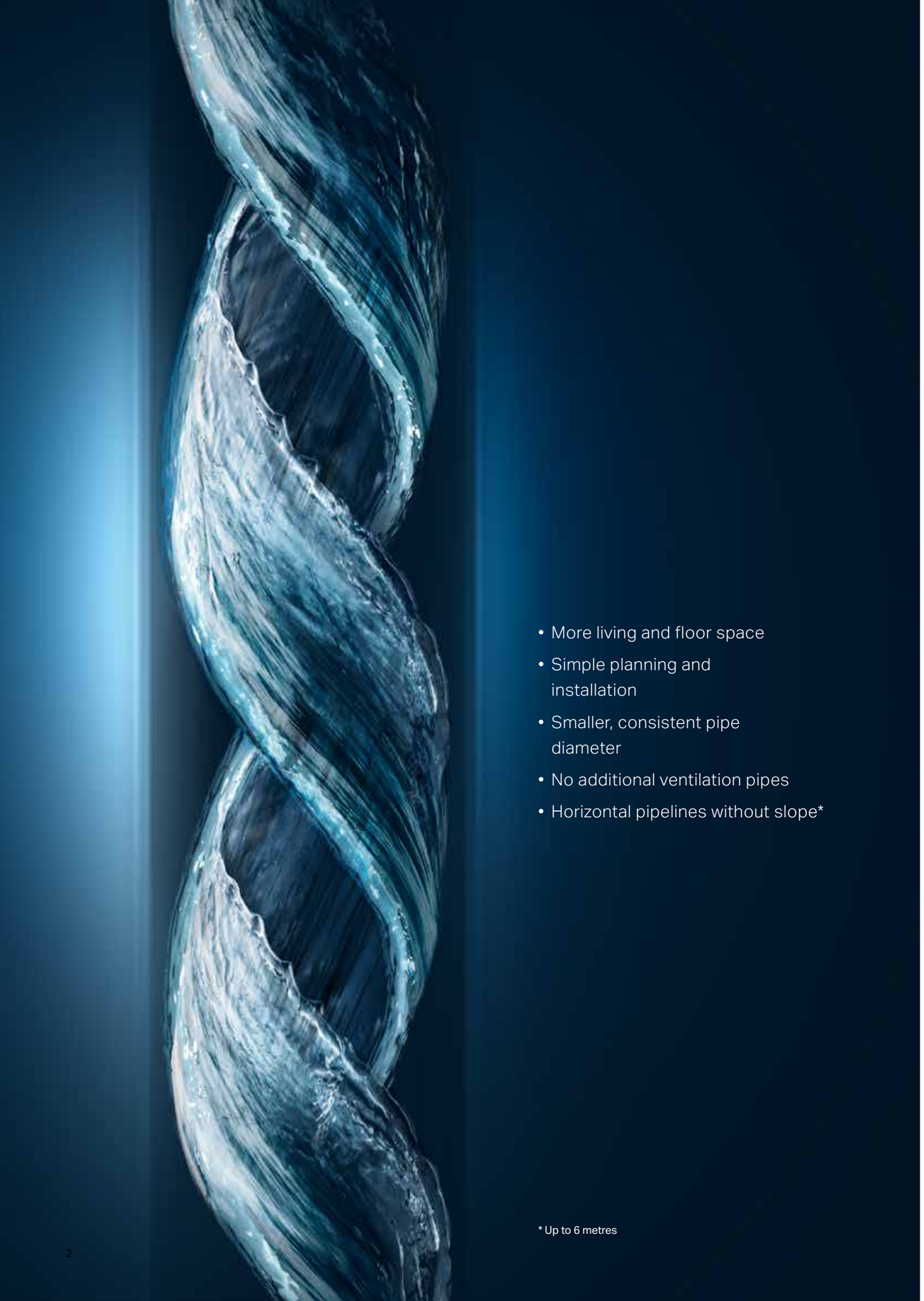
GEBERIT

GEBERIT SUPERTUBE

THE SPACE GAINING SYSTEM

KNOW HOW INSTALLED



- More living and floor space
- Simple planning and installation
- Smaller, consistent pipe diameter
- No additional ventilation pipes
- Horizontal pipelines without slope*

* Up to 6 metres

MORE SPACE AFFORDED BY OPTIMISED HYDRAULICS

The ingenious, flow-optimised Geberit SuperTube technology creates a continuous column of air in the discharge pipe, meaning a parallel ventilation pipe installation is no longer required.

The pipelines with smaller dimensions, which cope entirely without ventilation pipes, require significantly smaller pipe ducts. What's more, the horizontal pipelines can be laid to a length of up to 6 metres without a slope to save on space. As a result, the Geberit SuperTube creates more usable living space.

SOPHISTICATED HYDRAULICS

EVERYTHING AN EFFICIENT DRAINAGE SYSTEM NEEDS

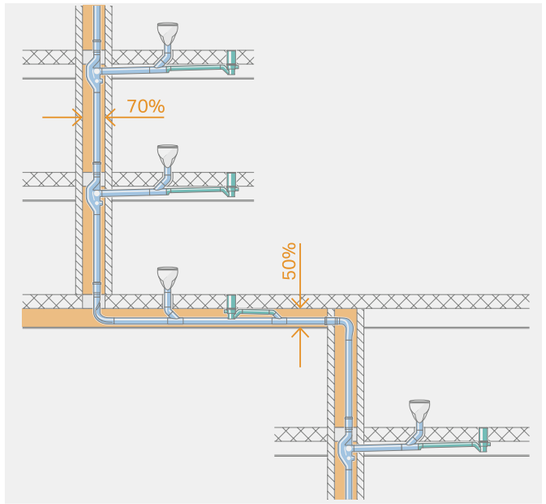
With its maximum discharge capacity of 12 l/s and a consistent pipe diameter of d110, Geberit SuperTube offers a comparable performance to a conventional system with considerable reductions in space and material requirements.

TAKING THE GEBERIT HDPE SOVENT FITTING TO THE NEXT LEVEL

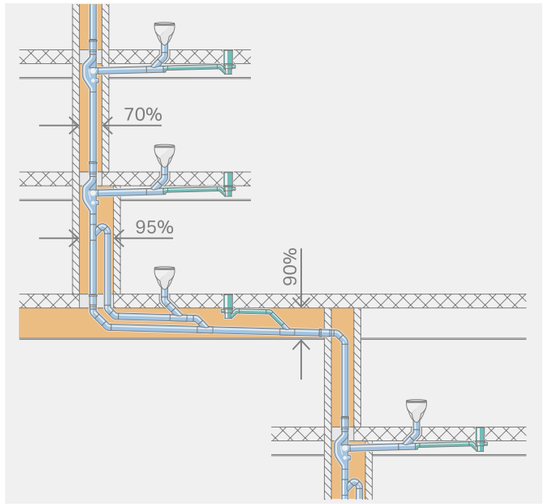
The Sovent fitting has already allowed Geberit to succeed in offering a space-saving solution for high-rise buildings by making it possible to do away with a parallel ventilation pipe. The Geberit SuperTube technology is now taking this concept one step further. Changes in direction have always required an additional ventilation pipe in the past, but the SuperTube has now made this surplus to requirements.

SPACE-SAVING INSTALLATION

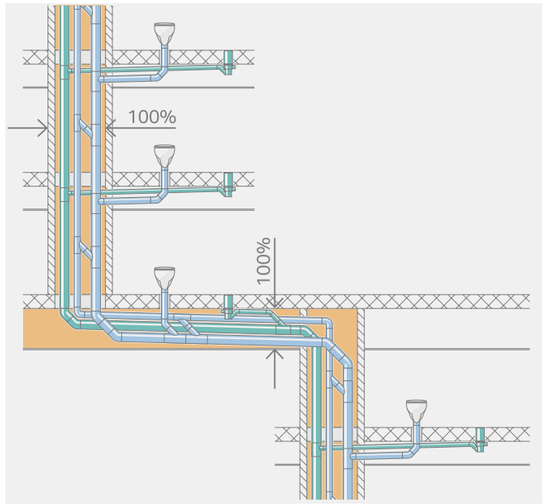
Geberit SuperTube saves space in every direction. The ability to do without the additional ventilation pipe reduces spatial requirements in both the vertical stack and in horizontal pipelines, for example with an offset or collector pipe. What's more, there is also no need for a slope any more in horizontal pipelines of up to 6 metres in length. This makes it possible, for example, to install ceiling suspensions extremely close to the concrete ceiling at an offset.



GEBERIT SUPERTUBE
Space-saving drainage technology with high capacity of 12 l/s, dimensions of d110, and horizontal pipelines of up to 6 metres without any slope.



OPTIMISED SYSTEM WITH THE GEBERIT SOVENT FITTING
Offers a performance of 12 l/s and dimensions of d110 with pressure relief pipe and 0.5-5% slope in the case of horizontal pipe layout.



CONVENTIONAL SYSTEM
Requirement for 12 l/s (soil d160, waste d160, vent d100) and 0.5-5% slope in case of horizontal pipelines

1. The outflowing water is set in rotation in the Geberit HDPE Sovent fitting.
2. The annular flow becomes a layered flow in the Geberit HDPE BottomTurn bend.
3. The layered flow becomes an annular flow once again in the Geberit HDPE BackFlip bend.

The result: A continuous column of air from the top floor to the collector branch pipe.

COMPONENTS

FITTINGS
THAT PUT A WHOLE NEW SPIN ON THINGS

The Geberit SuperTube technology is based on the perfect interplay between four system components. Three clever fittings coupled with the tried-and-tested Geberit HDPE discharge pipe with its high load-bearing capacity combine to create an innovative hydraulic solution that also brings clear additional benefits. These components are permanently welded to ensure a tight connection in the long term.

GEBERIT HDPE SOVENT FITTING D110
The optimised product geometry of the Geberit HDPE Sovent fitting guides the water into the stack and sets it in rotation, which causes it to press against the pipe wall. The resulting annular flow creates a stable, continuous column of air on the inside, which facilitates a discharge capacity of 12 l/s.

GEBERIT HDPE BOTTOMTURN BEND
With the Geberit HDPE BottomTurn bend, a change in direction causes the wall of water to break and the annular flow to become a layered flow without disrupting the column of air. This change significantly reduces impulse losses compared with conventional solutions.

GEBERIT HDPE BACKFLIP BEND
The twisted Geberit HDPE BackFlip bend causes the layered flow of water to swirl, which allows it to rotate through the vertical pipeline as it drains away in an annular flow. The inner air column in the subsequent stack is maintained.

- Large range of products and wide range of dimensions
- High temperature and chemical resistance
- Robust and shockproof
- Various connection options
- Environmentally friendly plastic

GEBERIT HDPE

ROBUST RESISTANCE NO MATTER WHAT

The Geberit HDPE drainage system defies temperatures, pressure and aggressive media. The robust pipes are available in all common diameters from d32 to d315, and the range of fittings including the special fittings is nearly comprehensive. The polyethylene piping material is very light yet unbelievable tough, and the connection technologies guarantee permanent tightness and high tensile strength. The system includes detail-tested components and practical tools for the building site and workshop.

DEFIES EXTREME TEMPERATURES

The high density of the material makes Geberit HDPE particularly robust. Hot water does not affect the material at temperatures of up to 80 °C – or even up to 100 °C in the short term and under certain conditions. In the event of cold, the tough material is even still shockproof at temperatures of - 40 °C.

SHOCKPROOF AND FLEXIBLE

The pipes and fittings withstand shocks, drops, impacts or pressures of up to 1.5 bar without breakage or permanent deformation. This robustness provides, most notably, a guarantee during the construction stage that the pipeline will remain intact despite possible mechanical influences.

IDEAL FOR PREFABRICATION

Due to the fixed connection technology, Geberit HDPE is perfectly suitable for prefabrication and thereby cost-effective production of series.

GENTLE TO THE ENVIRONMENT

Polyethylene, the material used, is environmentally friendly, has a positive ecobalance and is 100 % recyclable. No toxic emissions whatsoever are released if processed correctly. Also, no problematic hydrochloric gases are created in the event of a fire.

GEBERIT HDPE

VARIED SOLUTIONS
The comprehensive assortment of fittings with special fittings and accessories makes Geberit HDPE the universal solution for numerous drainage tasks. It is suitable, among other things, for use in industry, commerce, laboratory, for buried ground pipes and for roof drainage.

RESISTANT AGAINST CHEMICALS
The Geberit HDPE drainage system is suitable for a multitude of applications in industry or laboratories. The material is resistant against most standard alkalis, acids and chemicals.

UV-RESISTANT
The high-density polyethylene (PE) used by Geberit contains special additives which effectively protect against UV radiation. The weatherproof pipes can therefore also be stored outdoors.

IN THE WALL AND FLOOR
The extraordinarily tough and robust Geberit HDPE pipelines can be embedded in concrete or laid in the ground in accordance with static and other recognised technical regulations without any concern.

CONNECTIONS FOR ALL CIRCUMSTANCES
From butt welding to quick electrofusion sleeve coupling all the way to screw connection with flanges and pipe threads: Geberit HDPE pipes and fittings can be connected in a permanently sealed manner in many ways.

PERMANENT SEAL
The welding joints of Geberit HDPE pipes remain persistently leakproof for many years and offer building owners and plumbers a high degree of safety.

GEBERIT SERVICE

HIGH AMBITIONS CALL FOR A STRONG PARTNER

Finding cost-effective and reliable drainage systems for high-rise buildings often presents a challenge for building owners, sanitary engineers and plumbers alike. With its consistent research into hydraulics and its own, in-house product development, Geberit is raising the bar not only on a technical level, but also when it comes to service.

Partnership and reliability are core values that our customers around the world can expect from us. Whether you are looking for sound initial advice, planning support, help with invitations to tender, or building site support, the Geberit team is always by your side when you need it.

1 ADVICE & PLANNING **2 QUOTE CALCULATION** **3 PROJECT MANAGEMENT**

1 GOOD ADVICE & PLANNING

- Support with checking the possible applications of Geberit SuperTube
- Complete planning service including construction plans
- Geberit Tool for SuperTube Planning
- Material planning
- Provision of BIM data for Autodesk® Revit® and CAD data

2 EASY, RELIABLE CALCULATIONS

- Support with preparing a quotation
- Creation of a material list
- Creation of complete packages (pipelines, fittings, tools) for Geberit SuperTube

3 ON SITE SUPPORT

- Building site training for plumbers
- On-site inspections by Geberit specialists
- Support with change planning
- Final project acceptance

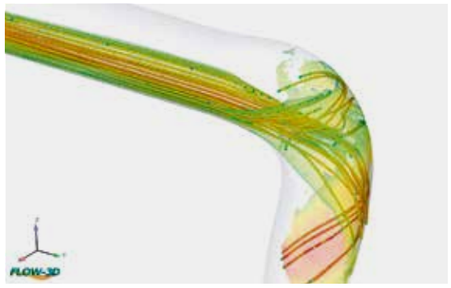
GEBERIT SUPERTUBE DIMENSIONING TOOL

Straightforward planning thanks to the dimensioning tool. The web tool guides you through the process of planning a one-dimensional discharge pipe step by step. The values and information obtained can then be collated and downloaded as a PDF file.

GEBERIT HYDRAULIC COMPETENCE

RELIABLE BUILDING DRAINAGE IS NO ACCIDENT

Contemporary buildings are setting ever-higher requirements, including for drainage systems. Large quantities of rainwater and waste water have to be drained safely and reliably over long distances. The hydraulics specialists at Geberit develop and optimise product solutions and systems that can take on this task effortlessly. Our many years of experience in flow engineering, comprehensive physical know-how, and unparalleled simulation and testing opportunities also establish firm foundations in this regard.



SIMULATIONS AND TESTS

The Geberit researchers start by using computational fluid dynamics (CFD) to establish potential development variations on a virtual basis in order to filter out optimal solutions for further development within the laboratory environment. The in-house drainage tower, which has been part of the test laboratory for over 50 years, then offers the opportunity to subject the new developments to all relevant hydraulic tests under real-life conditions in a subsequent step. It is only once the prototypes have successfully confirmed the simulation results in intensive laboratory tests that additional practical tests are conducted to develop them further for market.

TAKING DEVELOPMENT TO THE NEXT LEVEL

With the Geberit HDPE Sovent fitting, which was first developed in Switzerland back in 1959, it was finally possible to create a drainage system that did not require an additional ventilation pipe. Countless private and national test installations throughout the world verified the capabilities of this revolutionary innovation before the product eventually made its way onto the market in 1970. Over the course of the continuous product development process, the familiar Geberit HDPE Sovent fitting with d110 dimensions was later relaunched on the market in a flow-optimised version. The basic physical concept behind this was constantly being redeveloped until the new Geberit HDPE BottomTurn bend and Geberit HDPE BackFlip bend fittings were finally created. These have now also made their way onto the market in the form of an optimal combination known as SuperTube technology.

COMPREHENSIVE PRODUCT TESTS

The existing drainage tower was expanded considerably as part of the development process for the SuperTube technology in a bid to simulate real high-rise conditions in practice and create an offset at a length of up to 6 metres. The structures above the roof were designed to represent floors above the offset. The successful results – as well as all of the installations including the comprehensive measuring technology – were documented and confirmed by an external, accredited testing facility once the development process was complete.

NIMIT LANGSUAN, BANGKOK THAILAND

SPACE-SAVING DRAINAGE OF ULTRA HIGH RISE BUILDINGS

"By incorporating innovative products and ideas from around the world that combines aesthetics and function like Geberit Sovent, we strive to achieve our vision in delivering an unsurpassed essence of living to our clients."

Sorapoj Techakraisri
CEO, PACE, Thailand

PROJECT OVERVIEW

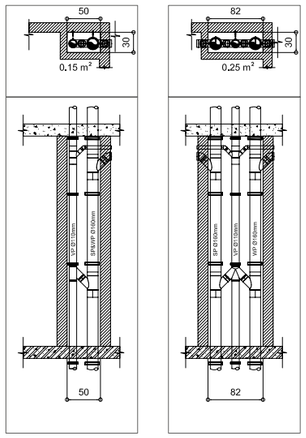
- Developer: Pace Development Corporation Public Company
- Architects: The Beaumont Partners Co., Ltd
- Owner: Pace Development Corporation Public Company
- Consultant: Turner Consulting (Thailand) Co., Ltd.
- Contractor: Bouygues-Thai Ltd.
- Sub Contractor: GME Co., Ltd.
- Height: 210 m.
- Floors: 55 Floors
- Bathrooms: 450 Bathrooms
- Completion: 2021

THE CHALLENGE

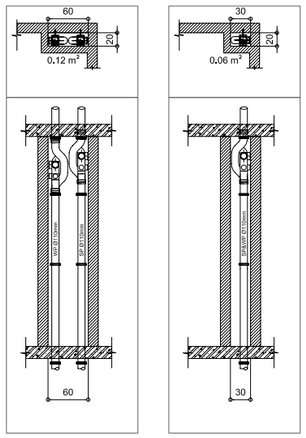
The Nimit Langsuan project initially started with a conventional triple stack design with a single ventilation pipe. The project is situated in an exclusive area in Bangkok, the service areas were shrunk down in size to optimize the overall cost of the project. However, this posed several challenges for the extremely tight installation process and hinders ease of access for maintenance and servicing in the future.

THE SOLUTION

The Sovent System saved space by taking the vent pipe away and reducing the diameter of the stacks from 160mm to 110mm. The solution saved approximately 50% of the space in every stack and more than 200 square meters for the entire project. By reducing more than 35% of the material BOQ, the proposed solution saved material cost as well as total installation time for the project.



Planning with 3 parallel stacks consist of soil pipe, waste pipe and ventilation pipe



Planning with Geberit Sovent

RESULTS

- Saved 50% of space in every stack
- Saved more than 200 sqm
- Reduction of more than 35% of materials

AMANORA GATEWAY TOWERS 100, PUNE, INDIA

STATE-OF-THE-ART HIGH RISE BUILDING DRAINAGE

"We were looking for a practical yet cost-effective solution to handle the drainage for the building complex. As soon as Technical Services told us about Geberit SuperTube, we knew that this technology would be just what we were looking for to handle the complex drainage requirements of the high-rise building."

Rajendra Kenjalkar,
Chief Operating Officer of City Corporation Limited

PROJECT OVERVIEW

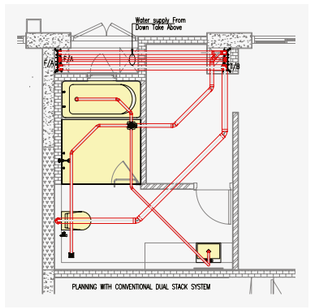
- Project developer: City Corporation Ltd
- Architect: P&T Consultants, Singapore
- Interior designer: Total Design Solutions, Bangkok
- Owner: City Corporation Ltd
- Plumber: Venkatesh Sanitation
- Height: 150 m
- Floors: 45
- Completion: 2020

TIGHT SCHEDULE

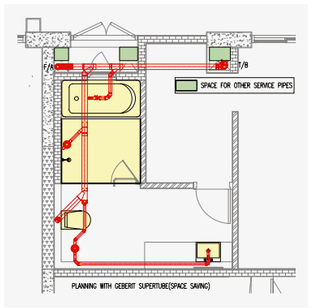
The schedule for laying the pipes was incredibly tight, which is why the support from Geberit was so crucial to the sanitary engineers and plumbers. Geberit technical advisors held various workshops to ensure the SuperTube was installed both correctly and in good time. They showed the plumbers how to handle PE pipes properly and gave them the opportunity to weld pipes together. The technical advisors also offered extra support on the building site.

PERSUASIVE ARGUMENTS

The SuperTube technology is ideal for the Indian construction market, where high-rise buildings are becoming ever taller and more complex. In addition to offering significant space savings, the installation requires considerably less material. It is aspects such as these, along with its straightforward installation, that allows SuperTube to have such a positive impact on the installation time.



Planning with a conventional drainage and ventilation system



Planning with Geberit SuperTube

RESULTS

- Space savings in the installation duct and in terms of room height
- Simple, time-saving installation
- Reduction in raw material

LOBBY 33, GUADALAJARA, MEXICO

INNOVATIVE TECHNOLOGY FOR GREATER ENVIRONMENTAL AWARENESS

"Space savings are always a crucial consideration. As far as investors are concerned, maximising the usable selling space is paramount. Cost-effectiveness also has a role to play, although this is not always clear when comparing the material costs of different systems."

Aldo Reyes
Artexa in Mexico

PROJECT OVERVIEW

- Project Developer: Numel Constructora Integral
- Architect: Carlos Santoscoy
- Owner: Promodesa Habitat
- Plumber: Servi
- Height: 140 m
- Floors: 30
- Completion: 2018

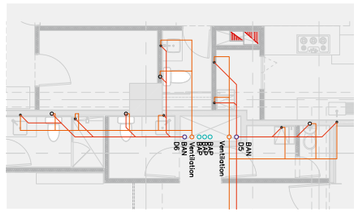
THE CHALLENGE

The Lobby 33 architects were keen to establish a better balance between architecture and environmental friendliness through the use of innovative technologies. The concept behind the building was to create a sustainable oasis that would reduce waste and improve the CO_2 balance. Its use of the latest technologies is also contributing to a change in architectural mindset within Mexico.

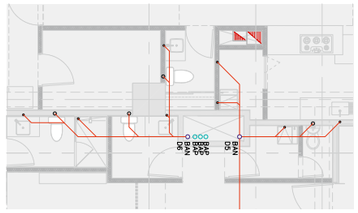
THE SOLUTION

The Geberit HDPE Sovent fitting won out as the favourite solution for the building drainage systems, as it required no additional ventilation pipe and allowed for the use of smaller pipeline dimensions. This resulted in significant space savings as well as a more straightforward overall installation process, which not only saved time for all involved but also reduced the final costs for the customer. An equally positive factor with regard to timing was the possibility to prefabricate the parts in the Geberit HDPE pipe system.

Both the high quality standards and the time savings afforded by the Geberit HDPE Sovent fittings allowed the architects to achieve their objectives.



Planning with conventional ventilation system



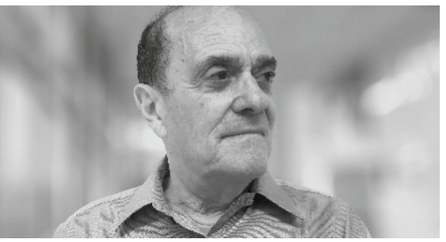
Planning with Geberit Sovent

RESULTS

- Reduction of stacks from four to two per duct
- Reduction of raw material by 40%
- Reduction of installation time by 40%

GINDI TLV TOWERS, TEL AVIV, ISRAEL

A HIGH-RISE ISLAND AT THE HEART OF THE CITY



“Space is a crucial aspect of any project. Here, we were able to reduce the size of the pipe duct by using the Geberit HDPE Sovent fitting. We actually achieved an average saving of 0.06 m² per pipe, which – at a total of 45 m² – amounted to the size of a small apartment.”

Zvi Pollak
Leading Consultant

PROJECT OVERVIEW (ALL FOUR TOWERS)

- Project developer: Gindi Developers
- Architect: MYS Architects / Yasky Mor Sivan
- Owner: Gindi Developers
- Plumber: Danya Cebus Ltd. / Y. Adiv
- Height: 160-180 m
- Floors: 46-50
- Completion: 2023

THE CHALLENGE

GINDI TLV is a huge new residential and lifestyle complex at the heart of Tel Aviv. The project called for the most cutting-edge technology along with the objective to save as much space as possible, as this comes at an expensive premium in Tel Aviv.

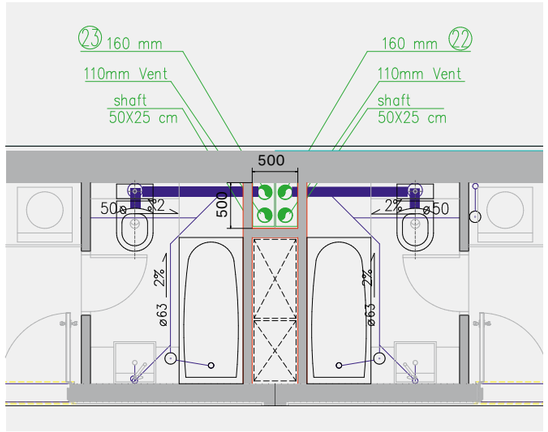
THE SOLUTION

Since the project consultant spoke highly of Geberit products, having relied on them for many years, the decision to use Geberit HDPE Sovent fittings was an easy one. This meant the pipe diameter for the drainage system could be reduced from 160 mm to 110 mm, thereby saving valuable space.

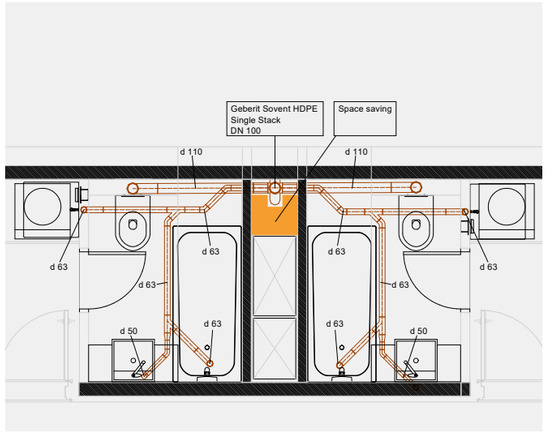
The regular visits from the Geberit team during the construction phase were also very well received and proved invaluable to the progress of the project.

RESULTS

- Planning support from Geberit
- Reduction of stacks from 71 to 36
- Time savings due to prefabrication
- 40% reduction in costs



Initial plan for the drainage system with additional ventilation



Final plan with Geberit Sovent

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