

Introducing



LICENSOR
poloplast GmbH & Co KG

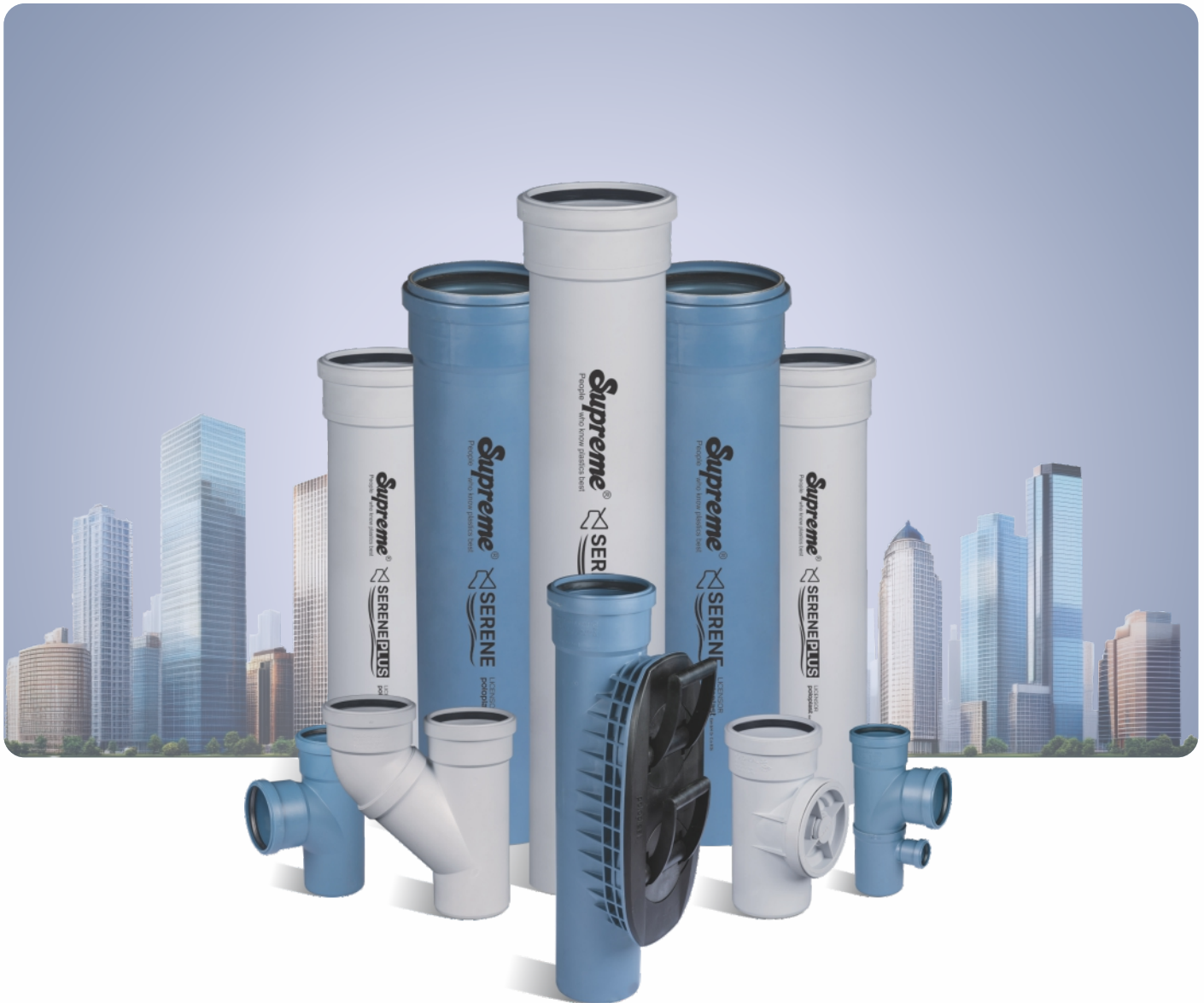


PP Low Noise Building Drainage System

...Ensure serenity with advanced PP drainage systems



**Listen to the voice of your soul,
Not the noise of your drainage...**



INTRODUCTION

The Supreme Industries Limited is an acknowledged leader of India's Plastic Industry. It is credited with pioneering several path breaking products and has been a torchbearer in the transition from conventional to advanced plastic piping products in the country. Its customer-centric approach fuels its research for designing unmatched quality products to meet the aspirations of its quality conscious customers. The innovative product portfolio offered by Supreme is extensive in range and application and comprises variety of pipes and vast spectrum of fittings totaling over 14,500 diverse product SKU's.

Strong commitment to innovation and decades of experience has helped Supreme to set new benchmarks in the field of drainage and sewerage. It has pioneered the efficient SWR drainage system in India that successfully replaced the

conventional AC and CI drainage systems. Subsequently, the company has introduced Skyrise, a uPVC-based building drainage system.

As urban infrastructure continues to evolve, the demand for advanced building drainage system that ensure efficient wastewater management while maintaining a peaceful living environment has become essential. Recognizing this need, Supreme, is now proud to introduce the most advanced and hi-tech three-layer **Serene and Serene Plus – PP silent pipe systems**. These acoustically superior building drainage systems are engineered to meet the modern-day construction requirements. These systems with an exceptional performance and reliability are designed to set new benchmarks in the industry.

THE SYSTEM

The high-performance Supreme Serene and Serene Plus silent drainage systems are designed for high-rise buildings and premium projects. Besides superior strength, these systems offer exceptional low noise properties and many unique features which makes them ideal for the projects where noise aspects are of prime importance.

These systems have different material properties and are developed considering varying project requirements and cost. Serene is a cost-effective solution designed for effective noise reduction, while Serene Plus is a premium offering that provides enhanced noise control and superior strength. Customers can select the system that meets their specific requirements.

Both systems are manufactured using specially formulated mineral reinforced Polypropylene (PP) compound using cutting-edge three-layer technology. This helps to achieve superior acoustic properties with improved mechanical strength. The combination of the exceptional acoustic and physical properties makes these systems an ideal choice over other products available in the market. The versatile design of these systems makes them very suitable to use in various places in the building like shafts, ducts, chutes, walls including underslung arrangement or any other demanding wastewater drainage applications.



GREENPRO CERTIFICATION

Supreme Serene systems are GreenPro certified, this certification is awarded to the products that have a lower environment impact and contribute significantly for enhancing the performance of green buildings. It reaffirms our commitment to sustainable development and green construction practices.



TECHNICAL COLLABORATION

Serene and Serene Plus systems are designed and developed in technical collaboration with **Poloplast, Austria**, who are the pioneers and global leaders in PP 3-layer technology. They have more than 25 years of knowledge and experience with this tried and tested technology and 60 years of experience with building drainage. With this joint venture we aim to offer the world's best quality PP Silent Pipe systems to our valued customers. Use of proven technology, specially developed compounds and state of the art manufacturing equipment differentiate these systems from other similar products.

UNIQUE FEATURES

- **Outstanding noise insulation properties with proven 3-layer technology** - The advanced three-layer technology significantly reduces the noise generated during wastewater discharge. This ensures a noiseless and more comfortable indoor environment.
- **World class quality and superior design** - These products are manufactured using specially developed material compound with high precision equipment to deliver top-notch quality. Well-researched and innovative product design enhances their durability, and efficiency.
- **Exhaustive product range** - The Serene and Serene Plus systems come in a wide range of sizes from 50 to 200 mm, to meet the requirements of all types of projects.
- **100% leak-proof joints** - The specially designed precision sealing rings ensure that every joint is completely leak-proof. The unique design of the rings also facilitates easy and quick installation with minimal efforts.
- **Mirror smooth inner surface ensures quick and efficient removal of waste without leakage** - This minimizes the chances of blockages and ensures the system remains efficient over a long period.
- **Extremely tough, high impact resistance** - These pipes are extremely tough and resistant to impact. They can withstand external pressures, accidental impacts, and extreme temperatures, which makes them highly durable.
- **Excellent chemical and heat resistance** - Supreme Serene products resist a wide range of chemicals found in the wastewater. Additionally, they withstand high temperatures, making them suitable for hot and cold wastewater discharge without losing their strength or functionality.
- **Quick and convenient installation** - The lightweight design and advanced jointing technique makes the installation fast, hassle-free, and very efficient.
- **Compliance to international standards** - These systems are designed and manufactured according to EN 1451-1, DIN 1986-100, ÖNORM B2501, and EN 12056 standards for gravity discharge system within the buildings. It is also tested for noise performance according to EN 14366, DIN 4109 & VDI 4100.
- **20 years warranty** - These systems offer complete peace of mind as they come with a 20-years warranty. This long-term assurance reflects our confidence in our product's performance.

NOISE POLLUTION IN THE BUILDINGS

NOISE POLLUTION-

Like air pollution and water pollution, we do not pay enough attention to the noise pollution. Noise pollution significantly affects health, behavior, and quality of life. In developed countries, several years ago this issue was addressed and building regulation authorities had stipulated that none of the equipment in the building should generate noise levels of more than 30 decibels (dB). This includes pumps, vacuum cleaners, washing machines, air conditioners etc. The study even added soil and waste pipe systems in the houses that cause noise and which need to be controlled properly.

SOURCES OF NOISE IN A PIPING SYSTEM-

Wastewater pipes are prone to vibration, particularly when water flows through down pipes, or is forced to change the direction in fittings. Whenever there is change in direction or size, the flow causes impact and consequently generates noise. This noise causes disturbance to the people in the adjacent rooms. The noise generated in the building may be classified as follows:

- Noise due to filling operations
- Intake/inflow noises
- Discharge noise
- Noise due to impact or shock

NOISE OCCURRENCE IN WASTEWATER SYSTEMS

The noise occurred in wastewater system is conveyed to the environment in two ways.

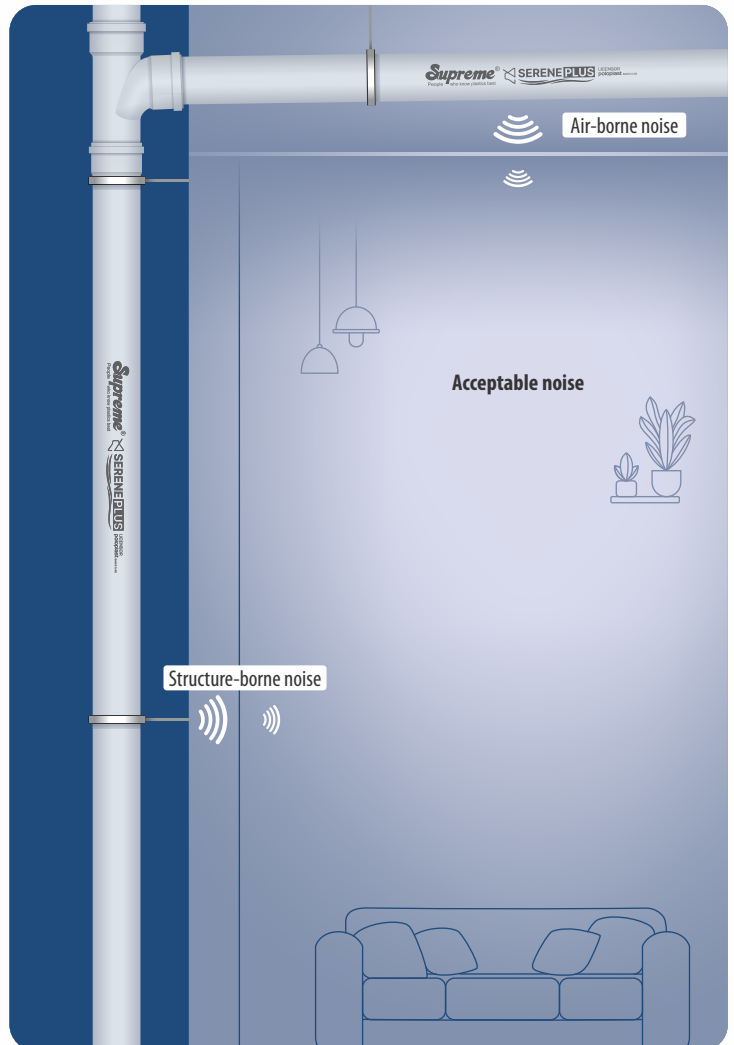
Structure-borne noise - The term structure-borne noise describes sound waves that expand within a solid object. For example, when you hit an iron rod, the impact causes noise and the noise travels over the material through a distance. This is structure borne noise. The lower the elasticity modulus, the shorter the distance traveled by the noise over a structure. Thus, the lower elasticity modulus of plastics gives the advantage of structure borne noise reduction. In drainage systems, this type of noise is common in areas where pipes are clamped, supported, or pass through walls and ceilings.

Airborne noise - The term air-borne noise describes sound waves that spread through the air. For example, when you speak in a room, a person in the next room can hear you. This happens because the noise travels through the air to the next room. If the dividing medium has less mass, the noise transfer through the air is higher. On the other side, if the dividing medium has more mass and density, then the noise reduction is better. By considering these factors, the ideal pipe system is designed using high-density plastics with increased wall thickness for better noise reduction.

To ensure a comfortable living and working environment, effective sound protection measures in buildings are essential. Noise pollution from drainage systems, whether airborne or structure-borne, can cause significant disturbances. Serene and Serene Plus PP Low Noise Drainage Systems are specially designed to minimize, control, and eliminate such noises. Their advanced material composition, improved wall thickness, and superior sound insulation properties significantly reduce noise transmission.

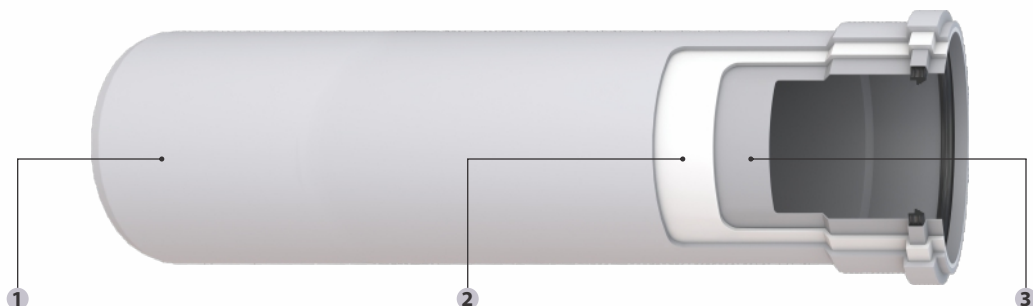
According to the tests conducted by the Fraunhofer Building Physics Institute, Germany as per [EN 14366](#) requirements, the Serene drainage system has achieved **14 & 17 dB(A) @ 2 & 4 LPS** respectively whereas Serene Plus drainage system has achieved **12 & 14 dB(A) @ 2 & 4 LPS** sound intensity levels respectively.

Necessary changes in the dB values will be done after receiving Fraunhofer certificate



THREE LAYER PIPE STRUCTURE

Serene and Serene Plus pipes are manufactured using the tried and tested three-layer technology. It absorbs all flow noises and guarantees the reliable and noise-insulating performance of the pipe system.



External Layer made of PP
- The tough protective shell of the pipe, sturdy and highly impact resistance.

Middle Layer made of mineral reinforced PP - Mineral reinforced plastic provides high stability and establishes the superior noise insulating effect.

Internal Layer made of PP - Free of halogen and cadmium, free of heavy metals. Tremendous surface smoothness and resistance to chemical agents.

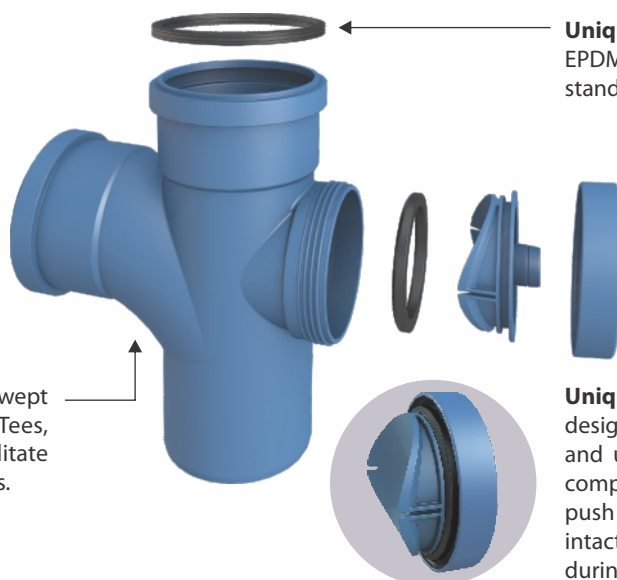


PRECISION SEALING SYSTEM

A secure and long-lasting pipe connection is essential for any drainage system. The specially designed precision sealing rings in Serene and Serene Plus systems ensure that every joint is completely leak-proof, even under challenging conditions. These unique rings also facilitate easy and quick installation with minimal effort while the precisely shaped push-fit sockets facilitate seamless and secure fit joints.

FITTINGS & ITS UNIQUE FEATURES

Drainage systems often experience local vibrations at the junctions or non-uniform configurations of the fitting designs due to critical flow conditions, which can critically impact noise levels. To minimize this effect and maintain acoustic performance, the design of fittings plays a crucial role. Supreme Serene and Serene Plus fittings are carefully designed considering these aspects to ensure optimal noise control and system efficiency.



Swept Angle - Specially designed swept angles of all junction fittings i.e. Tees, Reducing Tees, Cross Tees etc. facilitate smooth flow without any obstructions.

Unique Rubber Ring Design – High-quality EPDM rubber rings, conforming with EN 681-1 standards provide secure and reliable sealing.

Unique Door Design - The door is uniquely designed with an inner cap to facilitate smooth and uninterrupted flow. The inner and outer components of the door cap are integral and in push fit type design. It keeps the rubber seal intact with the fitting and does not fall down during maintenance.

SUPREME dB PLUS & METAL CLAMPS

Type and design of the clamps plays an important role in the intensity of structure borne noise. Considering this aspect we have specially designed Supreme dB Plus clamps in plastics with rubber liner to effectively reduce noise transmission. Along with these clamps we also offer specially designed metal clamps with rubber seal to control structure borne noise. Thus, these innovative clamps provide an effective solution to minimize the noise levels.



EHP CONTROL

With its large cleaning opening, EHP control offers a sensible solution for maintenance, inspection and cleaning - a practical complement for the Serene and Serene Plus varieties.

UNIQUE FEATURES

- Simple and secure locking mechanism as it can be opened easily without any tools.
- Free from metallic screw joints. Reliable as well as leak-proof when re-assembled.
- Normalised size of top-opening in compliance with the requirements of ÖNORM B2501.
- Larger access opening makes it suitable for camera inspection and high-pressure flushing.
- High internal pressure tightness - for long term up to 1.0 bar and for short term up to 1.5 bar.
- Pressure release when unlocking for safe handling.
- Uniform cross-sectional area assures free flow without any obstruction.
- System and material compatible - free of halogen.



SERENE ASV

ASV is the specially developed extraction-proof connection to secure push-fit joint under incremental pressures. This fitting allows the absorption of intermittent dynamic strain, caused by excess pressure, low pressure and/or vibration.

This innovative and useful fitting can be used in various applications like:

- As pressure line for water raising systems
- As pipeline for syphonic roof drainage
- For interior downpipe
- To secure socket plug
- For exposed pipework in areas at risk of backwater
- To secure against the elements sliding apart

Advantages

- Reinforces the secure retention of push-fit connections under increased loads to facilitate new areas of application.
- Simple and fast assembly, cost-effective option.
- Effortless assembly and disassembly.
- The extraction retainer as well as the pipe connections can be released if required.



FIRE PROTECTION

Fire behaviour classification

As per DIN 4102-1 the fire behaviour of construction materials like piping systems have been defined in fire classification classes and according to it Supreme Serene and Serene Plus products are classified as B2 i.e. non-readily ignitable. According to DIN 4102: B2, Q2, TR1 and according to EN 13501-1: D-s2,d1

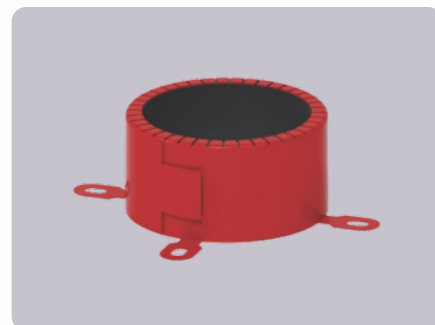
The main purpose of fire protection is

- Personal protection: protection of life and health
- Material value protection: protection of property
- Environmental protection: avoidance of contaminating air, water, and soil.

Supreme BSM fire protection collar

The Supreme BSM fire protection collar is tested for fire resistance category EI90 and can be used with Serene and Serene Plus PP Low Noise Drainage systems and is available in different sizes.

In the event of a fire, the plastic pipe becomes malleable and deforms when exposed to intense heat. To counter this, the fire protection collar features a special fire protection laminate that activates at temperatures starting from 150°C. This laminate expands up to ten times of its volume. Where expansion possibilities are limited, an expansion pressure of up to 10 bar ensures a reliable seal against fire and hot gas between the fire compartments. Within a few minutes, the fire protection laminate fully squeezes the plastic pipe together and seals off the wall or ceiling opening completely. This makes it impossible for flames and smoke to spread into the adjacent fire compartment through the piping.



FIELDS OF APPLICATION

Serene and Serene Plus - BD (building/drainage) and B (building) for gravity drainage systems inside and exterior to buildings in accordance with EN 1451-1 and DIN 1986-100. Supreme Serene and Serene Plus PP Low Noise drainage systems are suitable for soil and waste disposal from all types of buildings like -

- **Residential buildings:** Single Family House / bungalows, High-rise residential apartments etc.
- **Commercial buildings:** Complexes, Office Buildings, Hotels, Hospitals etc.
- **Educational Institutes • Industrial applications**
- **Underground drainage systems** in the plot boundary areas.

PRODUCT RANGE - SERENE

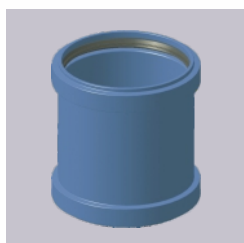
PIPES



Size (mm)		Wall thickness (mm)		Length (mm)
Min	Max	Min	Max	
50	50.3	2.00	2.30	All pipe sizes are available in 625, 930, 1230, 1830, 3080 lengths
75	75.4	2.30	2.80	
110	110.4	3.40	3.80	
125	125.4	3.90	4.30	
160	160.5	4.90	5.30	
200	200.5	6.50	7.10	

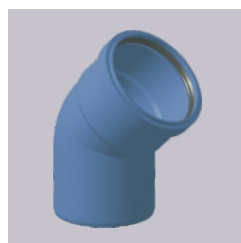
FITTINGS

Coupler



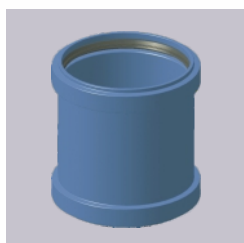
Size (mm)	Std. Packing
50	100
75	36
110	18
125	
160	12
200	4

Bend 45°



Size (mm)	Std. Packing
50	95
75	24
110	10
125	
160	10
200	2

Repair Coupler



Size (mm)	Std. Packing
50	100
75	36
110	18
125	
160	12
200	4

Single Swept Tee



Size (mm)	Std. Packing
50	48
75	12
110	12
125	
160	5

Bend 87.5°



Size (mm)	Std. Packing
50	80
75	24
110	8
125	
160	7
200	3

Single Swept Tee with Door



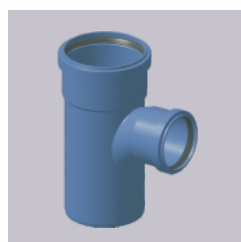
Size (mm)	Std. Packing
75	10
110	4
125	
160	4

Bend with Door 87.5°



Size (mm)	Std. Packing
75	20
110	6
125	6
160	3

Reducing Swept Tee



Size (mm)	Std. Packing
75x50	00
110x50	00
110x75	00
125x75	00
125x110	00
160x110	00
200x110	00
200x160	00

*Product images are indicative and will be replaced with the actual product images.

Reducing Swept Door Tee



Size (mm)	Std. Packing
110x75	12
160x110	4

Reducing Door Y



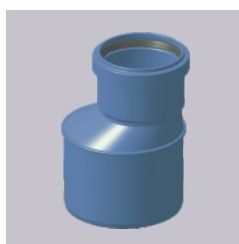
Size (mm)	Std. Packing
110x75	00
160x75	00
160x110	00

Swept Cross Tee



Size (mm)	Std. Packing
110	11

Eccentric Reducer



Size (mm)	Std. Packing
110x75	16
160x110	6

Corner Tee



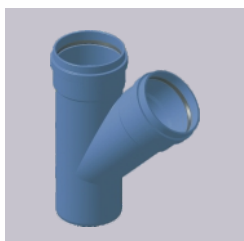
Size (mm)	Std. Packing
110	00

Socket Plug



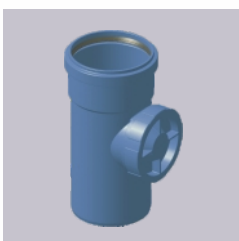
Size (mm)	Std. Packing
50	300

Single Y



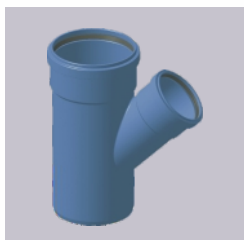
Size (mm)	Std. Packing
50	45
75	12
110	12
125	
160	4
200	

Access / Cleaning Pipe



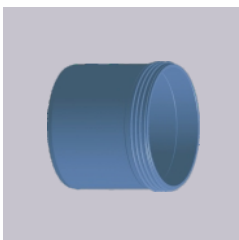
Size (mm)	Std. Packing
110	18
125	

Reducing Y



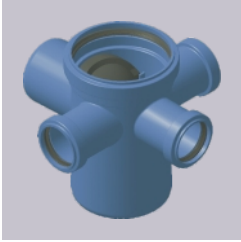
Size (mm)	Std. Packing
110x75	12
160x75	6
160x110	5
200x160	

Clean Out



Size (mm)	Std. Packing
110	00

Multi Floor Trap



Size (mm)	Std. Packing
110 (6")	00
110(7")	00

P Trap



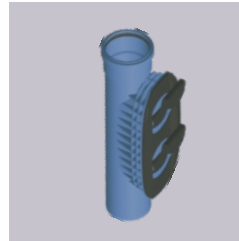
Size (mm)	Std. Packing
110	00

Height Riser



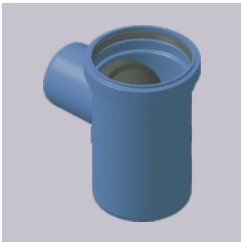
Size (mm)	Std. Packing
110 (6")	00
110(7")	00

EHP Control



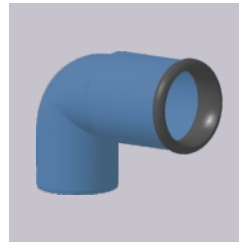
Size (mm)	Std. Packing
110	16
160	6

Plain Floor Trap



Size (mm)	Std. Packing
110x75	00

WC Bend 87.5°



Size (mm)	Std. Packing
110	00

PRODUCT RANGE - SERENE PLUS

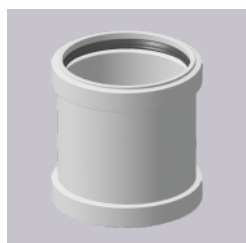
PIPES



Size (mm)		Wall thickness (mm)		Length (m)
Min	Max	Min	Max	
50	50.3	2.20	2.60	All pipe sizes are available in 625, 930, 1230, 1830, 3080 lengths
75	75.4	3.80	4.20	
110	110.4	4.80	5.30	
125	125.4	5.30	5.80	
160	160.5	7.50	8.10	

FITTINGS

Coupler



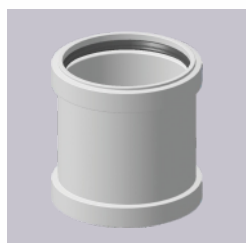
Size (mm)	Std. Packing
50	100
75	36
110	18
125	
160	12

Bend 45°



Size (mm)	Std. Packing
50	95
75	24
110	10
125	
160	10

Repair Coupler



Size (mm)	Std. Packing
50	100
75	36
110	18
125	
160	12

Single Swept Tee



Size (mm)	Std. Packing
50	48
75	12
110	12
125	
160	5

Bend 87.5°



Size (mm)	Std. Packing
50	80
75	24
110	8
125	
160	7

Single Swept Tee with Door



Size (mm)	Std. Packing
75	10
110	4
125	
160	4

Bend with Door 87.5°



Size (mm)	Std. Packing
75	20
110	6
125	6
160	3

Reducing Swept Tee



Size (mm)	Std. Packing
75x50	00
110x50	00
110x75	00
125x75	00
125x110	00
160x110	00

*Product images are indicative and will be replaced with the actual product images.

Reducing Swept Door Tee



Size (mm)	Std. Packing
110x75	12
160x110	4

Access / Cleaning Pipe



Size (mm)	Std. Packing
110	18
125	

Swept Cross Tee



Size (mm)	Std. Packing
110	11

Multi Floor Trap



Size (mm)	Std. Packing
110 (6")	00
110 (7")	00

Corner Tee



Size (mm)	Std. Packing
110	00

Height Riser



Size (mm)	Std. Packing
110 (6")	00
110(7")	00

Single Y



Size (mm)	Std. Packing
50	45
75	12
110	12
125	
160	4

Plain Floor Trap



Size (mm)	Std. Packing
110x75	00

Reducing Y



Size (mm)	Std. Packing
110x75	12

P Trap



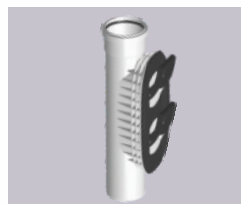
Size (mm)	Std. Packing
110	00

Reducing Door Y



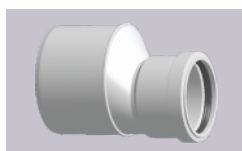
Size (mm)	Std. Packing
110x75	00

EHP Control



Size (mm)	Std. Packing
110	00
160	00

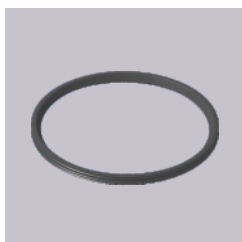
Eccentric Reducer



Size (mm)	Std. Packing
110x75	16
160x110	6

ACCESSORIES (Suitable for Serene and Serene Plus)

Rubber Seal



Size (mm)	Std. Packing
50	00
75	00
110	00
125	00
160	00
200	00

Supreme Metal Clamp



Size (mm)	Std. Packing
50	00
75	00
110	00
125	00
160	00
200	00

Serene Clip



Size (mm)	Std. Packing
50	00
75	00
110	00
125	00
160	00
200	00

Serene ASV



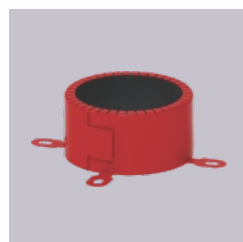
Size (mm)	Std. Packing
50	00
75	00
110	00
125	00
160	00
200	00

Supreme dB Plus Clamp



Size (mm)	Std. Packing
110	00

Fire Sleeves/Collars



Size (mm)	Std. Packing
50	00
75	00
110	00
125	00
160	00
200	00

FABRICATED FITTINGS

Double Branch



Size (mm)	Std. Packing
110	00

Parallel Branch



Size (mm)	Std. Packing
110x50	00

Vertical Double Branch



Size (mm)	Std. Packing
110x110x75	00
110x50x75	00
125x110x75	00
160x110x75	00

Cleaning Pipe



Size (mm)	Std. Packing
50	00
75	00
110	00
125	00
160	00
200	00

WC Transition Straight Connector with Vent



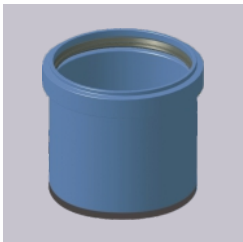
Size (mm)	Std. Packing
110x50	00

Door Bend with 50mm Vent 87.5°



Size (mm)	Std. Packing
110x50	00

Expansion Coupler



Size (mm)	Std. Packing
75	00
110	00
160	00
200	00

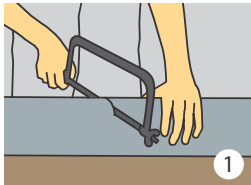
Reducing Double Corner Branch



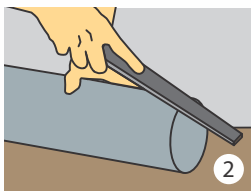
Size (mm)	Std. Packing
110x75	00
125x110	00
160x110	00

Note: Fabricated fittings are available in both Serene and Serene Plus varieties

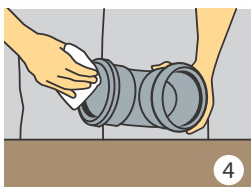
INSTALLATION PROCEDURE



Pipes are available in different lengths with single socket, double socket and plain w/o sockets and the pipe ends are pre-chamfered to facilitate smooth pipe insertion inside the sockets. If cutting is required while installation use the appropriate cutting tools like professional pipe cutter or saw. Make sure that it is cut square. The cut end should be deburred and chamfered to an angle of 15° using a medium file. This helps to prevent the displacement of the rubber ring.



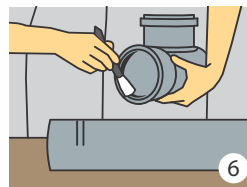
Ensure that the spigot end and the inner side of the socket are clean.



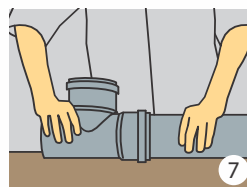
Check and make sure the position and intactness of the rubber seal in the socket. Clean the rubber seal if necessary.



A correct depth of entry of the spigot into the socket is required to accommodate thermal movement. To achieve this, measure the insertion depth of the socket and mark it on the pipe spigot. Then, make another bold mark 10mm shorter than the first mark. This bold mark indicates the correct depth of entry, ensuring the necessary expansion gap.



Apply Supreme SILAID rubber lubricant evenly on the pipe or fitting spigot end and the rubber seal. Then, insert the spigot into the socket with a light twisting motion until it reaches the second bold marked line, leaving 10mm to allow expansion gap.



The joint is now ready and requires no additional mastic, tape or cement or any other jointing sealants.



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