

Nu-Drain[™]

Underground Drainage and Sewer System

... an underground revolution

The Supreme Industries Ltd., is an acknowledged leader of India's plastic industry. It is credited with pioneering several path breaking products and has valuable experience in providing innovative and cost effective piping solutions. Company's objective is to meet the growing needs of its clientele in water, waste management and infrastructure sector through specially developed high performance range of piping products. The innovative product portfolio offered by Supreme is extensive in range and application and comprises a variety of pipes and a vast spectrum of fittings totaling around 7000 diverse products. Together these constitute the most comprehensive range in the industry that caters almost every conceivable need and application. Company has been a torch bearer in transition from conventional products to advance plastics piping products in the country and has been termed as the "Trend Setters of Plastic Piping Products".

Supreme Nu-drain underground drainage system is one among many innovative products of the company which offers several advantages over conventional underground drainage products. Supreme Nu-drain is not only free from different problems associated with conventional brick masonry chambers and stoneware or concrete pipes but equipped with many outstanding features. Looking at its versatile features, this promising product has the potential to change the face of sanitation, construction and environment in the country and will certainly enhance the quality of life by improving the quality of sanitation.



Jeevan bhar ka saath...

The System

Supreme underground drainage and sewerage system has been designed with a view to modern human's inclination towards health, hygiene and his aversion to filth and pollutants. Due to unpleasant nature of human waste, a drainage system should be "out of sight and out of mind". Most of the drainage systems are actually hidden from sight. It is hence important that it should be of superior quality and should be able to function year after year without leakage or defects. It becomes unpleasant and expensive to address such problems that arise in conventional underground products. Such problems may happen due to poor product quality or due to faulty construction and outdated technology.

Supreme Nu-drain is intended to carry soil and waste from building drainage system to roadside sewers or drains and from there to treatment plant or disposal point. This system is advantageous and offers multiple advantages over traditional drainage products for all sorts of drainage and sewerage application and installations. Nu-drain is highly recommended for buildings and townships where hygiene is a prerequisite. It is considered to be most ideal for buildings such as hospitals, hotels etc. and applications where drains run on upper floors in hanging form, ex. basement drainage. This can also be used as storm water drainage for rainwater collection and disposal, including rainwater harvesting. In short Nu-drain provides complete solution for underground drainage and sewerage application. Being absolutely watertight it is considered to be most hygienic and safe. Unlike conventional drainage products, it is free from pollution of underground water, soil and ill effects on building foundations. As the installation of this system is quite simple and fast there is tremendous saving in time & labour. The choice of the raw material, the structural accuracy and the strict quality control imparts high degree of reliability. As a result Nu-Drain is now approved by MCGM. Thus Nu-drain is not just a substitute, but it is more than alternative to conventional drainage products. In this modern age, this product has emerged as a blessing to housing and construction sector.

Product Specifications

Plastic moulded inspection chambers are made as per BS and EN standards. Solid wall uPVC Nu-drain pipes confirms to IS:15328:2003, Hi-tech structured wall pipes viz. Eco-drain, Foam Core and Ultra Plus DWC pipes confirms and meet the requirements of IS: 16098 and EN13476 standard.

Features and Benefits

Great Flexibility - Due to availability of readymade inspection chambers and manholes along with long lengths of lighter weight pipes and different components, installation of this system is very convenient and fast.

Perfect Hydraulic Properties - Mirror smooth inside surface of the pipes and streamline design of the chambers and manholes greatly reduce the possibility of blockage and maximize flow characteristics. As a result, carrying capacity of these pipes can be increased by 40% over concrete pipes.

Great Strength - Products are sufficiently durable to meet site-loading requirements.

Watertight System - Connection of pipe, riser or the shaft with the inspection chamber or manhole base is absolutely watertight. And unique design of pipe joints with click ring and sealing ring makes the system completely leak proof.

Hygienic and Safe - Trouble free performance of the joints without blockage and leakage ensures high standards of hygiene.

Minimum Excavation Cost - Because of simple jointing technique, trench width can be kept minimum and smoother bore of the pipe allow high flow rates at relatively flatter gradients.

Different Flow Profile Designs - Inspection chambers and manholes are available in different flow profiles/configurations of inlet(s) and outlet in different sizes to suit the site requirements. Unwanted inlets if any can be closed with the help of blanking plugs.

Minimal Maintenance - Optimum functional qualities and good hydraulic properties plays an important part in reducing the need for jetting and other forms of maintenance, and therefore operational costs are considerably reduced.

Longer Life and Overall Economy - Nu-drain is free from problems like corrosion and susceptibility to chemical reactions. It is also strong enough to carry soil and traffic loads. Thus Nu-drain is sufficiently durable, and offers long and trouble free service life.

Product Range

Supreme Nu-drain Underground Drainage and Sewer System comprises the following components

1. Different sizes of Ultra Inspection Chambers and Manholes
2. Piping system with different structured wall pipes, complete fittings and accessories including traps
3. Covers in different sizes and load classes

Ultra 250

This unique inspection chamber of 250 x 110 mm in uPVC is featured with provision of 75 mm trap and hence one can directly combine soil and waste lines to reduce the cost. This is also available without trap and hence customer has choice to use this chamber as per site requirements. This small version of inspection chamber is recommended for small bungalows/houses where maximum invert depth is up to 600 mm.

Ultra 315, Ultra 355 and Ultra 450

Ultra inspection chambers in these sizes comprise chamber base, riser(s) or shaft in specially developed Polypropylene / PE grade. Covers and frames are made in uPVC, PE and GRP. Entire assembly provides a completely sealed system up to ground level. It offers a wide variety of flow profiles, giving you an option for all drainage applications between 110 to 200 mm sizes. A choice of the different configurations provides a comprehensive, level invert system with excellent flow characteristics. The invert depth can be obtained by using multiple risers or suitable length of shaft.

Ultra 315 inspection chamber is designed to collect 110mm drains whereas Ultra 355 inspection chambers are designed to collect 160/110 mm drains.

Ultra 450 inspection chamber is designed to provide the method of collecting 110/160/200 mm drains at invert depths up to 1280 mm by using risers (maximum 5 risers) and 1295 mm by using shaft. Shallower depths can be achieved by cutting the riser.

Ultra 600

The Ultra 600 inspection chamber consists of the base, corrugated shaft and adjustable telescopic adapter. Use of telescopic adapter is not mandatory. It is required for small height adjustments. The Ultra 600 base with 250 mm inlet(s) and outlet is available in 6 different flow configurations. This is provided with specially designed swivel adapters for free angular deflection up to 7.5° from the center line in each direction. This flexibility makes it possible to directly adjust the pipe connection in the trench without extra accessories. This chamber is suitable for installation depths from 0.8 to 5 m. The shaft provides excellent resistance to ground movement and heavy traffic loads. Ultra 600 is suitable for 250 mm size pipes and

160 and 200 mm size pipes can be connected using eccentric reducers.

In addition to 600 x 250 mm series, recently we introduced inspection chamber in 600 x 200 mm size. This robustly design chamber is made available in four different configurations and are offered with and without integral shaft. Availability of this size can eliminate the need of eccentric reducers and further cost saving is possible. This strong and sturdy product is superior and helpful in many ways.

Simple and reliable "insitu" connections can be easily made in the shaft to create additional connections.

Inspection Chambers : Invert depths for different combinations

Ultra Chamber/ Manhole	Combination of Base, Cover / Frame & Riser/ Shaft	Invert Depth
Ultra 250	Base - self invert	220 mm
	Base with shaft - 320 mm Length	450 mm
	Base with shaft - 470 mm Length	600 mm
Ultra 315	Base - self invert	210 - 305 mm
	Base with 1 riser	335 - 465 mm
	Base with 2 risers	495 - 625 mm
Ultra 355	Base - self invert	268 - 350 mm
	Base with 1 riser	415 - 650 mm
	Base with shaft pipe - 465 mm length	608 - 690 mm
Ultra 450	Base - self invert	365 - 420 mm
	Base with 1 riser	530 - 600 mm
	Base with 2 risers	700 - 770 mm
	Base with 3 risers	870 - 940 mm
	Base with 4 risers	1040 - 1110 mm
	Base with 5 risers	1210 - 1280 mm
	Base with shaft pipe - 460 mm length	680 - 735 mm
	Base with shaft pipe - 710 mm length	930 - 985 mm
	Base with shaft pipe - 1020 mm length	1240 - 1295 mm
	Base & shaft with 110 & / or 160 mm branch	695 - 750 mm
Ultra 600	Base - self invert	460 - 600 mm
	Base with shaft length - 600 mm	860 - 1000 mm
	Base with shaft length - 900 mm	1160 - 1300 mm
	Base with shaft length - 1200 mm	1460 - 1600 mm
	Base with shaft length - 1500 mm	1760 - 1900 mm
	Base with shaft length - 1800 mm	2060 - 2200 mm
	Base with shaft length - 2100 mm	2360 - 2500 mm
Base with shaft length - 2400 mm	2660 - 2800 mm	

In-situ Adapter

Besides, inlet(s) of selected flow profile of the inspection chamber base or manhole, additional connections are possible through shaft at different heights or angles using specially designed in-situ adapters. These adaptors are made available in 75, 110, 160 and 200 mm sizes, which can be used for connecting any line even in post installation condition.

Cover Solution

Heavy weight covers for Ultra 315 and Ultra 450 are offered in uPVC. These covers are designed for 3.5 MT wheel load. These covers tilt and rotates to suit site conditions and are provided with 4 screw holes which are suitable for self tapping. For internal use, sealed covers are also available. In addition to this, light duty (LW) covers are also made available for Ultra 250, 315, 355 and 450. These light weight covers are suitable for pedestrian areas where traffic load is not expected. In addition to the above mentioned covers, recently we introduced composite covers for Ultra 315, 355 and 450 which is suitable for 3.5 MT wheel load.

For heavy traffic conditions, GRP and SFRC frame and covers are also available in 450 and 600 mm sizes. Covers with gratings are also available.

Hi-tech, high performance pipes

For underground drainage and sewerage application we offer almost all varieties of structured wall pipes in different sizes as given below. These pipes are noticeably lighter and less expensive than any existing PVC pipe of similar stiffness and many times lighter than a concrete pipe with equivalent load carrying capacity. These pipes are made as per IS 16098 and offered in 6 m length. Besides these structured wall pipes, solid wall PVC pipes conforming to IS 15328 and marked with ISI mark and PE pipes as per IS 1433 are available in 3 m and 6 m lengths in different sizes.

Eco-drain Hi-tech Structured wall pipes

These pipes have unique wall structure with number of holes in the wall thickness in longitudinal direction and are available in 110 to 630 mm sizes.

Foam core pipes

Foam core structure wall pipes with central foam layer are made available in 110, 160 and 200 mm sizes. These pipes are supplied with socketed ends.

Ultra Plus DWC Pipes

These pipes are not solid wall pipes but have a unique wall structure with corrugated construction externally and smooth internally. This imparts stiffness and flexibility required to sustain dead or moving loads from the surface. Lighter than any conventional pipe it has the ability to sustain its job for years and years. Wonderful combination of lowest inner friction, smooth internal flow characteristics, high flexibility, superior strength to weight ratio and highest ability to support and distribute live and dead loads, makes it performs exceptionally well in high and low cover situations. These pipes are available in 100 to 600 mm sizes in SN 4 and SN 8 stiffness class. These pipes are made available in plain end form as well as with integral sockets along with necessary fittings.

Type of Pipe	Pipe Size (mm)	Nominal Ring Stiffness SN (KN/m ²)
U-drain Pipes	110	8
	125	4, 8
	160 to 400	2, 4, 8
Eco-drain Pipes	110	8
	160 to 250	4, 8
	315 to 630	2, 4, 8
Foam core Pipes	110	8
	160, 200	2, 4, 8
Ultraplus DWC Pipes	100 to 600	4, 8

PE Pipes

Supreme HDPE pipes are also available in 63 to 800 mm sizes in PN 2.5 to PN 16 pressure class. These pipes are manufactured as per IS 14333:1996 and are available in 6 meter length. These pipes are joined either by click ring type fittings or by butt welding, thus joints are absolutely watertight. These pipes are most advantageous for undulating terrains.



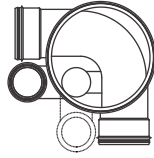
Ultra inspection chamber configurations and accessories

Straight Through



315x110x110 mm
355x160x160 mm
450x200x200 mm
600x200x200 mm
600x250x250 mm
600x315x315 mm

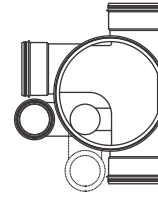
Left Hand & Right Hand 90° Bend



250x110x110 mm
w/o Trap

250x110x110 mm
with trap

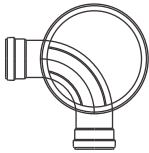
Left Hand & Right Hand 90° Junction



250x110x110 mm
w/o Trap

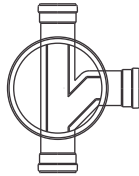
250x110x110 mm
with trap

Left or Right Hand 90° Bend



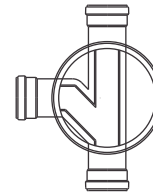
315x110x110 mm
355x160x160 mm
450x200x200 mm
600x200x200 mm
600x250x250 mm

Right Hand 90° Junction



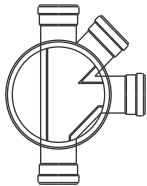
315x110x110 mm
355x160x160 mm
355x160x110 mm
450x200x160 mm
600x200x200 mm
600x250x250 mm

Left Hand 90° Junction



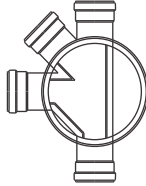
315x110x110 mm
355x160x160 mm
355x160x110 mm
450x200x160 mm
600x200x200 mm
600x250x250 mm

Right Hand 90° & 45° Junction



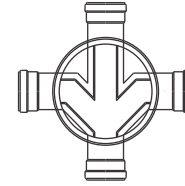
315x110x110x110 mm

Left Hand 90° & 45° Junction



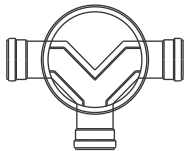
315x110x110x110 mm

Left & Right Hand 90° Junction (Cross)



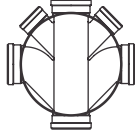
355x160x160 mm
355x160x110 mm
450x200x160 mm
600x200x200 mm
600x250x250 mm

Two 90° Inlet Junction



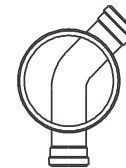
315x110x110 mm

Ultra 450 Multiple inlets



315x110x110x110 mm
355x160x110x110 mm
450x160x160x110 mm

Right / Left Hand 45° Bend



600x250x250 mm

Marked products are also available with integral shaft in two different lengths i.e. 700 and 1300mm with 1135 and 1735mm invert depths.

Sizes	Items	Sizes	Items	Sizes	Items
Ultra 250 - 320 mm (1-½ ft. Invert depth)		450 mm - 215 mm (with rubber seal)		780 mm long	
Ultra 250 - 470 mm (2 ft. Invert depth)			Riser	1080 mm long	
Ultra 355 - 215 mm		600 mm long		1380 mm long	
Ultra 355 - 465 mm		900 mm long		1680 mm long	
Ultra 450 - 460 mm		1200 mm long		1980 mm long	
Ultra 450 - 710 mm		1500 mm long		(with rubber seal)	
Ultra 450 - 1020 mm	1800 mm long	Shaft pipe with socket - Ultra 600			
	Shaft pipe	2100 mm long			
315 mm - 200 mm		2400 mm long		Ultra 600	
355 mm - 335 mm		Riser	(with rubber seal)	Shaft pipe - Ultra 600	
					Telescopic Adaptor

Sizes	Items
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250 mm L.W.
315 mm L.W.
450 mm L.W.
(uPVC)



355 mm L.W.
(PE)



315 mm H.W.
355 mm H.W.
450 mm H.W.
(Composite Plastic)



Frame and Cover

250 mm
315 mm
450 mm



Frame + Grating Cover

450 mm - 2.5 Ton
450 mm - 10 Ton



600 mm - 10 Ton
600 mm - 20 Ton
600 mm - 40 Ton

Note: Covers with grating are also available

GRP Frame and Cover

75 mm
110 mm
160 mm
200 mm



In-situ Adaptor

75 mm
110 mm
160 mm
200 mm



Hole Saw

Sizes	Socket Type	Items
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6x4" Spg
6x4x4" SpgxSpg
8x6" Spg
8x6x6" SpgxSpg



Bottle Gully Trap

110 mm Spg



Square Gully Trap

Sizes	Socket Type	Items
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110x110 RxRxR
160x160 RxRxR (Short)
160x160 RxRxR (Long)



Master Trap

*160 RxSpg



Backflow Prevention Valve

110 mm CR x CR
160 mm CR x CR
200 mm CR x CR
250 mm CR x CR
400 mm R x R
450 mm R x R
500 mm R x R
600 mm R x R



Coupler

75 mm R x S
110 mm R x S



Connecting Coupler

110 mm (Short) CRxCR



Swept Bend Long Radius

110 mm (Long) CRxCR
CRxSpg

110 mm CR x CR
110 mm CR x Spg
160 mm CR x Spg
250 mm R x Spg
315 mm R x Spg



Bend 45°

110 CRxCRxCR



Swept Tee

160 CRxCRxSpg
110 CRxCRxSpg
160x110 CRxCRxSpg



Equal Tee, Reducing Tee

Sizes	Socket Type	Items
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110 mm Spg



Rodding Eye

160x110 mm SpgxR
200x160 mm SpgxCR
250x160 mm SpgxR
250x200 mm SpgxR
315x200 mm SpgxR
315x250 mm SpgxR



Eccentric Reducer

75 mm Spg
110 mm Spg
160 mm Spg



Blanking Plug

4"x110 RxSpg
6"x160 RxSpg



Stoneware Pipe Adaptor
for plain end
(rubber ring type)

8"x200 RxSpg
10"x250 RxSpg
12"x315 RxSpg



RCC Pipe Adaptor

50 Ltr.
500 Ltr.
750 Ltr.
1000 Ltr. } with cover



Grease Trap

110 Spg
160 Spg



Yard Gully Trap

110x100x1.0m long
(4 x 4")

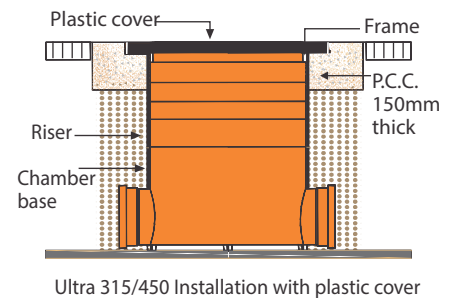


Surface Drain Channel

* Marked products will be shortly introduced.

Installation of Ultra 250, 315, 355 and 450

- Place the chamber base on 10 cm deep bed of granular material or compacted stable soil bed.
- Based on invert depth, select appropriate number of risers or shaft pipe(s).
- Apply rubber lubricant on rubber seal provided on the riser/shaft. The riser/shaft is designed to fit tightly into Ultra base and should be pushed fully home. Intermediate depths may be obtained by cutting the riser / shaft to the required depth. Concentric grooves are provided on the exterior face of the riser which acts as cutting guides.
- Repeat the procedure for more number of risers or shaft pipes.
- Make pipe connections in the same way as per the standard procedure (use rubber lubricant for joining)
- Ensure proper positioning of the riser(s) and frame (fitted with cover)/shaft.
- Backfill the pit with granular material (soft grit/stone dust/ sand) of 150 mm width with proper compaction. In case backfilling material is murum or soil it needs watering with slight compaction.
- The frame component should be positioned to meet the site requirements.
- In case of traffic loads, 6" PCC at the top beneath the cover frame is recommended.
- Place the suitable cover (Plastic LW, HW/SFRC / GRP) as per the load requirements.



Installation procedure for Ultra 600



1. Level the bottom of the trench with a suitable bedding material of minimum 10 cm (4") depth. Please note the trench level for the base is lower than that for the pipe. Place the chamber base on stable foundation.



2. Apply lubricant and connect it with the pipe by pushing the base to the pipe spigot.



3. Ensure the correct position of Ultra 600 base on the bedding material by using spirit level.



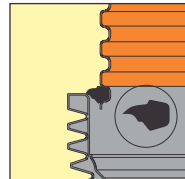
4. Connect the pipes in the required position. The adjustable pipe connector provided with the base enables an angular deflection of 7.5° from the centerline in each direction.



5. Cut the shaft to the required installation depth by using hand saw or electric saw. Cut should be made only on outer rib.



6. Assemble the sealing ring around the shaft between top two ribs.



7. Check if the sealing ring is assembled correctly.



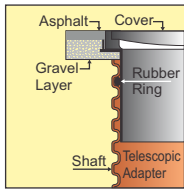
8. Apply lubricant on the inside of the base.



9. Push the shaft with sealing ring into the base.



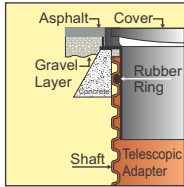
10. Backfilling with granular material should be carried out carefully to assure the material is evenly filled and compacted around the inspection chamber. The degree of compaction should be in



accordance with requirements of the construction project with minimum of 95% proctor density. Avoid large sharp stones in direct contact with the inspection chamber.

Backfilling should be carried out immediately after placing and fixing the base in position and should continue up to the top level.

Note : In case of 600 x 200 mm 90° bend base, shaft is socketed and hence while connecting shaft, rubber sealing ring should be placed between top two ribs on exterior face of the base.



Installation procedure for Telescopic adapter :

11. If telescopic adapter is essential then, put the sealing ring on inside of the shaft between the top two ribs to place the telescopic adapter.



12. Apply lubricant on the telescopic adapter. Push the telescopic adapter to the required depth into the shaft. The telescopic adapter should be pushed into the shaft for minimum of 15 cm.



13. In case of heavy traffic the concrete layer beneath the telescopic adapter is recommended and necessary precaution should be taken to avoid direct contact between shaft and concrete.



14. Place the SFRC or GRP cover of suitable load class.

15. Finish off with top layer of asphalt or prevailing finish.

Note: The Ultra 600 can also be installed without the telescopic adapter. In this case a concrete ring will be installed directly around the top of the shaft. The SFRC, GRP, cast iron or ductile iron cover should be placed on top of the concrete ring.

Procedure for in-situ adapter connection



1. Drill a hole in the shaft to the required size using hole saw at the desired point of connection.



3. Apply lubricant on the inside of the rubber seal.



5. The extra pipe-inlet is now ready.



2. Remove burrs after drilling and place the rubber seal of 'in-situ' adapter in the hole.



4. Insert the 'in-situ' pipe connector into the rubber seal.



6. Apply lubricant and push the pipe into the in-situ connection.

Supreme team of technical design engineers are able to offer specific project assistance for your drainage installation.

- Any specification can change without prior notice.
- All information contained in this literature is given in good faith and believed to be accurate and reliable. But because of many factors which may be outside our knowledge and control and affect the use of the product, no warranty is given or is to be implied with respect to such information, nor do we offer any warranty of immunity against patent infringement. No responsibility can be accepted for any error, omissions or incorrect assumptions.

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