Supreme®
People who know plastics best

Total Piping Solution

75 YEARS OF EXCELLENCE

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 gained a valuable experience in providing innovative and cost effective piping solutions. The Company has been a trend setter and a torch bearer in the transition from conventional to advanced plastic piping products in the country. The Company's objective is to meet the growing needs of its clientele in water and waste management and in infrastructure sector through a specially designed high performance range of piping products. The innovative product portfolio offered by Supreme is extensive in nature and applications. With its range of over 7500 products, the most comprehensive in the piping industry, Supreme caters to almost every conceivable need and application in piping.

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 man'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 good quality and should be able to function year after year without leakages 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 Such problems may happen due to poor product quality or due to faulty construction and outdated technology.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 to roadside sewers or drains and from there to treatment plant or disposal point. This offers multiple advantages over traditional drainage products for all sorts of drainage and sewerage applications and installations. Nu-Drain is highly recommended for buildings where hygiene is a prerequisite such as hospitals, hotels etc. This can also be used for rainwater collection and disposal, including rainwater harvesting. Thus, Nu-Drain is a complete solution for underground drainage and sewerage application. Being 100% watertight, it is free from ingress and seepage of water and is considered to be the most hygienic. Unlike conventional drainage products, it is free from pollution of underground water, soil or ill effects on building foundations. In this fast age, this product emerged as blessing to housing and construction sector. Due to tremendous saving in time and labour, installation of this system is quite simple and fast. 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 and emerged as a superior substitute to conventional products.

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 conforms to IS:16098 and meets all the test requirements of European and International standards.

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.

100% Watertight system - Pipe, riser or the shaft connection with the chamber 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 to a minimum and smoother bore of the pipe allows high flow rates at relatively flatter gradients.

Different flow profile designs - Inspection chambers are available in different flow profiles/ configurations of inlet(s) and outlet in different sizes to suit the site requirements. Inlets that are not needed can be closed with the help of blanking plugs.

Minimal maintenance - Optimum functional qualities and good hydraulic properties play 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 - It is free from problems like corrosion and susceptibility to chemical reactions and strong enough to carry soil and traffic loads. Nu-Drain is sufficiently durable, 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 110mm in uPVC is featured with provision of 75mm trap. One can, therefore 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 600mm.

Ultra 315, Ultra 355 and Ultra 450

Ultra inspection chambers in these sizes comprise chamber base, riser(s)/shaft in specially developed Polypropylene/PE grade. Covers and frame are made in composite plastic 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 200mm sizes. The 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 at invert depth up to 625mm using risers (maximum 2 risers) whereas Ultra 355 inspection chamber is designed to collect 160/110mm drains at invert depths up to 690mm by using shaft/riser(s) .

Ultra 450 inspection chamber is designed to provide the method of collecting 110/160/200mm drains at invert depths up to 1280mm by using risers (maximum 5 risers) and 1295mm by using shaft. Concentric grooves are given on the exterior face of the riser which acts as cutting guides and shallower depths can be achieved by cutting the riser. Shaft should be cut on the top of corrugation for proper placement of the sealing ring.

Ultra 600

The Ultra 600 inspection chamber consists of the base, corrugated shaft and adjustable telescopic adapter which provide proper seating base for GRP/SFRC ring and cover. Use of telescopic adapter is not mandatory. The Ultra 600 base with 250mm inlet(s)/outlet is available in 6 different flow configurations. All flow configurations are provided with specially designed swivel adapters which allows a free angular deflection of 7.5° from the center line in each direction. This flexibility makes it possible to directly adjust the pipe connection in the trench.

This robust chamber is suitable for installation depths from 0.8 to 5m. The shaft provides excellent resistance to ground movement and heavy traffic loads. Ultra 600 is suitable for 250mm pipes and 160 and 200mm size pipes can be connected using eccentric reducers.

In addition to 600 x 250mm size inspection chambers, recently we have introduced inspection chamber in 600 x 200mm size. This is available in four different configurations and is offered with and without integral shaft. This avoids the use of eccentric reducers while using 200mm size to further reduce the cost to the consumer. 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	220mm
	Base with shaft - 320mm Length	450mm
	Base with shaft - 470mm Length	600mm
Ultra 315	Base - self invert	210 - 305mm
	Base with 1 riser	335 - 465mm
	Base with 2 risers	495 - 625mm
Ultra 355	Base - self invert	268 - 350mm
	Base with 1 riser	415 - 650mm
	Base with shaft pipe - 465mm length	608 - 690mm
Ultra 450	Base - self invert	365 - 420mm
	Base with 1 riser	530 - 600mm
	Base with 2 risers	700 - 770mm
	Base with 3 risers	870 - 940mm
	Base with 4 risers	1040 - 1110mm
	Base with 5 risers	1210 - 1280mm
	Base with shaft pipe - 460mm length	680 - 735mm
	Base with shaft pipe - 710mm length	930 - 985mm
	Base with shaft pipe - 1020mm length	1240 - 1295mm
	Base & shaft with 110 &/or 160mm branch	695 - 750mm
Ultra 600	Base - self invert	460 - 600mm
	Base with shaft length - 600mm	860 - 1000mm
	Base with shaft length - 900mm	1160 - 1300mm
	Base with shaft length -1200mm	1460 - 1600mm
	Base with shaft length - 1500mm	1760 - 1900mm
	Base with shaft length - 1800mm	2060 - 2200mm
	Base with shaft length - 2100mm	2360 - 2500mm
	Base with shaft length - 2400mm	2660 - 2800mm

In-situ adapter

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

Cover solution

Heavy weight frame and covers in composite material for Ultra 315 and Ultra 450 are designed to tilt and rotate to suit site conditions. These covers are designed for 3.5 MT wheel load and are suitable for light traffic movements. These are provided with 4 screw holes suitable for self tapping. In addition to these, sealed covers for internal use, light duty (LW) covers for pedestrian areas are also available. For heavy traffic conditions, GRP frame and covers are also made available. Besides plain covers, covers with gratings are also made available.

Recently we have introduced covers for Ultra 355 in 3.5 MT, 600 x 450mm in 5 MT and 300 x 300mm gully top covers in composite plastics.

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 6m 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 3m and 6m 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 400mm sizes.

Foam core pipes

In addition to the solid wall pipes and Eco-drain structure wall pipes, we have recently introduced foam core pipes in 110, 160 and 200mm 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 600mm 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 pipes	**Pipe size** (mm)	**Nominal ring stiffness SN** (KN/m^2)
U-drain pipes	110 125 160 to 400	8 4, 8 2, 4, 8
Eco-drain pipes	110 160 to 250 315 to 400	8 4, 8 2, 4, 8
Foam core pipes	110 160, 200	8 2, 4, 8
Ultraplus DWC pipes	100 to 800	4, 8

PE pipes

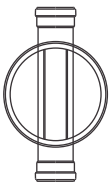
HDPE pipes are also available in 63 to 630mm sizes in PN 2.5 to PN 16 pressure classes. These pipes are manufactured as per IS:14333-1996 and are available in 6m length. The pipes are joined either by click ring type fittings or by butt welding making them absolutely watertight. These pipes are most useful in an undulating terrains.





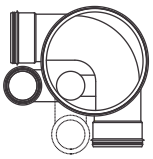


Ultra inspection chamber configurations and accessories



Straight Through

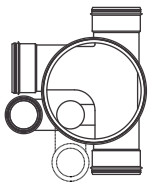
315x110x110mm
355x160x160mm
450x200x200mm
600x200x200mm
600x250x250mm
600x315x315mm



Left Hand & Right Hand 90° Bend

250x110x110mm
w/o Trap

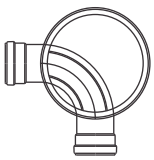
250x110x110mm
with trap



Left Hand & Right Hand 90° Junction

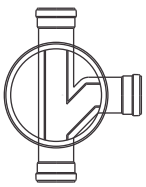
250x110x110mm
w/o Trap

250x110x110mm
with trap



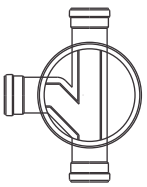
Left or Right Hand 90° Bend

315x110x110mm
355x160x160mm
450x200x200mm
600x200x200mm
600x250x250mm



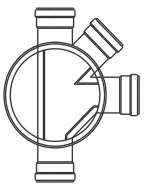
Right Hand 90° Junction

315x110x110mm
355x160x160mm
355x160x110mm
450x200x160mm
600x200x200mm
600x250x250mm



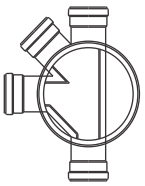
Left Hand 90° Junction

315x110x110mm
355x160x160mm
355x160x110mm
450x200x160mm
600x200x200mm
600x250x250mm



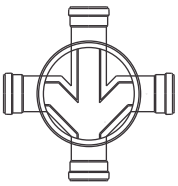
Right Hand 90° & 45° Junction

315x110x110x110mm



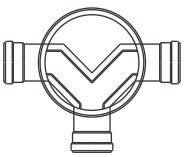
Left Hand 90° & 45° Junction

315x110x110x110mm



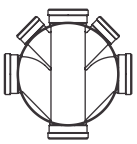
Left & Right Hand 90° Junction (Cross)

355x160x160mm
355x160x110mm
450x200x160mm
600x200x200mm
600x250x250mm



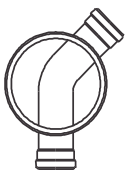
Two 90° Inlet Junction

315x110x110mm



Ultra 450 Multiple inlets

315x110x110x110mm
355x160x110x110mm
450x160x160x110mm



Right/Left Hand 45° Bend

600x250x250mm

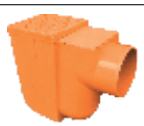
 # Marked products are also available with integral shaft in two different lengths i.e. 700 and 1300mm with 1135 and 1735mm invert depths.

Sizes	Items
Ultra 250 - 320mm (1-½ ft. Invert depth) Ultra 250 - 470mm (2 ft. Invert depth)	
Ultra 355 - 200mm Ultra 355 - 465mm Ultra 450 - 460mm Ultra 450 - 710mm Ultra 450 - 1020mm	 **Shaft pipe**
315mm - 200mm 355mm - 335mm	 **Riser**

Sizes	Items
450mm - 215mm (with rubber seal)	 **Riser**
600mm long 900mm long 1200mm long 1500mm long 1800mm long 2100mm long 2400mm long (with rubber seal)	 **Shaft pipe - Ultra 600**

Sizes	Items
780mm long 1080mm long 1380mm long 1680mm long 1980mm long (with rubber seal)	 **Shaft pipe with socket - Ultra 600**
Ultra 600 (With rubber seal)	 **Telescopic Adaptor**

Sizes	Items
250mm L.W. 450mm L.W. (uPVC)	
315 mm H.W. 355 mm H.W. 450 mm H.W. (Composite Plastic)	 **Frame and Cover**
300x300 *600x450	 **Gully Top Cover**
250mm 315mm 450mm	 **Frame + Grating Cover**
450mm - 2.5 Ton 450mm - 10 Ton 600mm - 10 Ton 600mm - 20 Ton 600mm - 40 Ton Note: Covers with grating are also available	 **GRP Frame and Cover**
75mm 110mm 160mm 200mm	 **Insitu Adaptor**
75mm 110mm 160mm 200mm	 **Hole Saw**

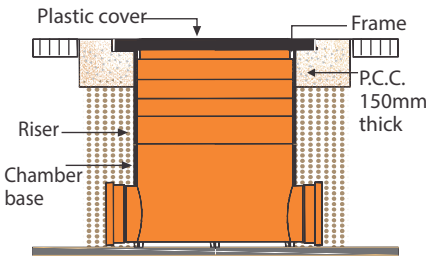
Sizes	Socket Type	Items
6x4" 6x4x4" 8x6" 8x6x6"	Spg SpgxSpg Spg SpgxSpg	 **Bottle Gully Trap**
110mm Note : Provided with detachable partition	Spg	 **Square Gully Trap**
110mm	Spg	 **Square Gully Trap** (IP)

Sizes	Socket Type	Items
110x110 160x160 (Short) 160x160 (Long)	RxRxR RxRxR RxRxR	 **Master Trap**
160	RxSpg	 **Backflow Prevention Valve**
110mm 160mm 200mm 250mm 400mm 450mm 500mm 600mm	CR x CR CR x CR CR x CR CR x CR R x R R x R R x R R x R	 **Coupler**
75mm 110mm	R x S R x S	 **Connecting Coupler**
110mm (Short) 110mm (Long)	CRxCR CRxSpg	 **Swept Bend Long Radius**
110mm 110mm 160mm 250mm 315mm	CR x CR CR x Spg CR x Spg R x Spg R x Spg	 **Bend 45°**
110 110 160	CRxCRxCR CRxCRxSpg CRxCRxSpg	 **Swept Tee**
110 160 160x110	CRxCRxSpg CRxCRxSpg CRxCRxSpg	 **Equal Tee, Reducing Tee**

Sizes	Socket Type	Items
110mm	Spg	 **Rodding Eye**
160x110mm 200x160mm 250x160mm 250x200mm 315x200mm 315x250mm	SpgxR SpgxCR SpgxR SpgxR SpgxR SpgxR	 **Eccentric Reducer**
75 mm 110 mm 160 mm	Spg Spg Spg	 **Blanking Plug**
4"x110 6"x160	RxSpg RxSpg	 **Stoneware Pipe Adapter** for plain end (rubber ring type)
8"x200 10"x250 12"x315	RxSpg RxSpg RxSpg	 **RCC Pipe Adapter**
50 ltrs 500 ltrs 750 ltrs 1000 ltrs	with cover	 **Grease Trap**
110 160	Spg Spg	 **Yard Gully Trap**
110x100x1.0m long (4 x 4")		 **Surface Drain Channel**

Installation of Ultra 250, 315, 355 and 450

- Place the chamber base on 10cm high bed of granular material or compacted stable soil bed.
- Based on invert depth, select appropriate number of risers or shaft pipe.
- Apply SILAID 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 home completely. Intermediate depths may be obtained by cutting the riser/shaft to the required depth.
- Repeat the procedure in case of more number of risers or shaft pipes.
- Make pipe connections in the same way as per the standard procedure.
- 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 150mm 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 vehicular traffic, 6" PCC at the top is recommended.
- Place the suitable cover (Composite plastic/GRP) as per the load requirements.



Ultra 315/450 Installation with plastic cover

Installation procedure for Ultra 600

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

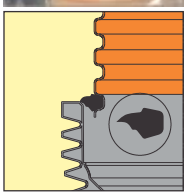
2. Apply lubricant and connect it with the pipe by pushing the base to the pipe spigot.

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.

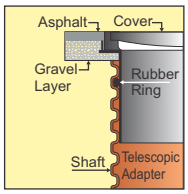


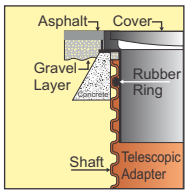
7. Check if the sealing ring is assembled correctly.

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 200mm 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 15cm.

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.

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

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

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

5. The extra pipe-inlet is now ready.

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.

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