Supreme®
People who know plastics best

Total Piping Solution

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 been a torch bearer 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 8000 diverse products.

Nu-Drain underground drainage system is one among the many innovative products offered by the Supreme. It is a breakthrough in underground sewerage system technology giving several advantages over erstwhile underground sewerage products. Supreme Nu-Drain is totally free from different problems that are often associated with the conventional brick masonry chambers and stoneware or concrete pipes. This promising system 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. Nu-drain comprises complete piping system, different sizes of inspection chambers, manholes, covers and accessories. Supreme is the pioneer in introducing this value added system and the only company to offer complete underground drainage and sewerage solution with rquired technical support.

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. It is hence important that the system should be of good quality and should be able to function year after year without any leakage or defects. It becomes unpleasant and expensive to address the 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 Such problems may happen due to poor product quality or due to faulty construction and outdated technology.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 the treatment plant or disposal point. This system 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 has emerged as blessing to the 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 reduces the possibility of blockages and maximizes the 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 blockages and leakages ensure 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 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 250x110mm in uPVC is featured with the 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 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 (max 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 (max 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 provides 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 eccentric reducers are available to connect 160 and 200mm pipes.

In addition to 600x250mm size inspection chamber, recently we have introduced inspection chamber in 600x200mm and 600x315mm sizes. 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.

In-situ adapter

Besides, inlet(s) of selected flow profile of the chambers base, additional connections can also be made 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.

Inspection Chambers: Invert depths with different combinations

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

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, 600x450mm in 5 MT and 300x300mm 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.

These pipes are noticeably lighter and are less expensive than any existing PVC pipe of similar stiffness and many times lighter than the concrete pipes 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 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.

Ultra Plus DWC pipes

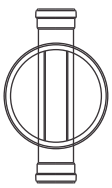
These pipes are not solid wall pipes but have a unique wall structure with corrugated construction externally and a glass smooth surface internally. This imparts stiffness and flexibility required to sustain dead or moving loads from the surface. Lighter than any conventional pipe it has the ability 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 perform exceptionally well in high and low cover situations. These pipes are available in 75 to 800mm 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	8
Ultraplus DWC pipes	75 to 800	4, 8

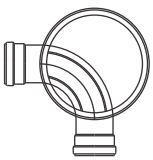
PE pipes

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.

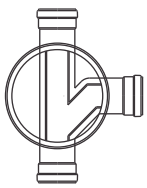
Ultra inspection chamber configurations and accessories



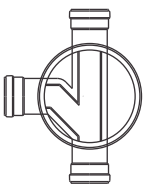
Straight Through
315x110x110mm
355x160x160mm
450x200x200mm
600x200x200mm
600x250x250mm
600x315x315mm



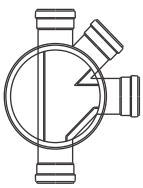
Left or Right Hand 90° Bend
315x110x110mm
355x160x160mm
450x200x200mm
600x200x200mm
600x250x250mm



Right Hand 90° Junction
315x110x110mm
355x160x160mm
450x200x160mm
600x200x200mm
600x250x250mm

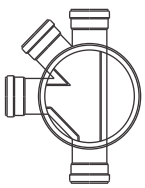


Left Hand 90° Junction
315x110x110mm
355x160x160mm
450x200x160mm
600x200x200mm
600x250x250mm



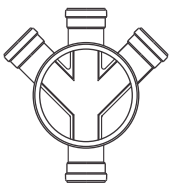
Right Hand 45° & 90° Junction

315x110x110x110mm



Left Hand 45° & 90° Junction

315x110x110x110mm



Right Hand & Left Hand 45° Junction

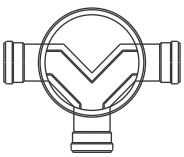
450x200x160mm

Right Hand 45° Junction

450x200x160mm

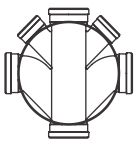
Left Hand 45° Junction

450x200x160mm

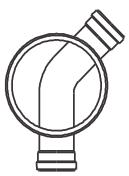


Two 90° Inlet Junction

315x110x110mm

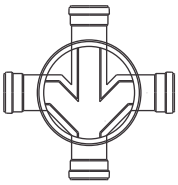


Ultra 450 Multiple inlets
315x110x110x110mm
355x160x110x110mm
450x160x160x110mm



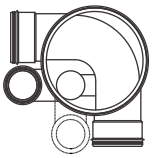
Right/Left Hand 45° Bend

600x250x250mm



Left & Right Hand 90° Junction (Cross)

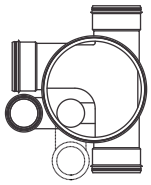
355x160x160mm
450x200x160mm
600x200x200mm
600x250x250mm



Left Hand or Right Hand 90° Bend

250x110x110mm w/o Trap

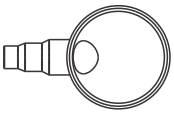
250x110x110mm with trap



Left Hand or Right Hand 90° Junction

250x110x110mm w/o Trap

250x110x110mm with trap



Ultra 600 Blind Base

600	160/200/250

Sizes	Items
Ultra 600 with Integral Shaft	
600x200x200 -600mm long	
600x200x200 -1200mm long	
600x250x250 -600mm long	
600x250x250 -1200mm long	
600x315x315 -600mm long	
600x315x315 -1200mm long	

Sizes	Items
Ultra 600 with Integral Shaft and Bend	
600x200x200 -700mm long	
600x200x200 -1300mm long	

Sizes	Items
315mm - 200mm	
355mm - 335mm	
450mm - 215mm (with rubber seal)	 **Riser**

Sizes	Items
600mm long	
900mm long	
1200mm long	
1500mm long	
1800mm long	
2100mm long	
2400mm long	
780mm long	
1080mm long	
1380mm long	
1680mm long	
1980mm long	
(with rubber seal)	 **Shaft pipe - Ultra 600**

Sizes	Items
Ultra 250 - 320mm (1½ 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	
Ultra 450 shaft with 110mm and 160mm branch	 **Shaft pipe**

Sizes	Socket type	Items
450x400mm	RxS	 **Shaft Adapter** (for DWC Pipe)
780mm long		
1080mm long		
1380mm long		
1680mm long		
1980mm long		
2280mm long (with rubber seal)		**Shaft pipe with socket - Ultra 600**
600mm		 **Shaft Connector**
Ultra 600 (With rubber seal)	Spg	 **Telescopic Adaptor**
250	Spg	 **Frame & Grating Cover**
315	Spg	
450	Spg	
250mm L.W.		
450mm L.W. (uPVC)		**Frame and Cover**

Sizes	Socket type	Items
300x300mm - 2.5 Ton		 **Gully Top Cover**
300x300mm - 1.5 Ton		 **Gully Top Cover** with Grating
315mm - 1.5 Ton		
355mm - 3.5 Ton (Round type)		
*450mm - 10 Ton (Round type)		
*600x450mm - 5 Ton (Rectangle type)		
315mm - 3.5 Ton		
450mm - 3.5 Ton (Square type)		**Composite Frame & 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**
450mm - 20 Ton		
600mm - 20 Ton		
450mm - 40 Ton		
600mm - 40 Ton (Covers with grating)		**SFRC Frame and Cover**

*Marked products will be shortly introduced.

Sizes	Socket type	Items
110x110mm (Long)	RxR	 Master Trap
160x110mm (Long)	RxR	
160x110mm (Short)	RxR	
160mm	RxSpg	 Backflow Prevention Valve
600x160x160	RxR	 Master Trap with integrated chamber
110mm Note: Provided with detachable partition	Spg	 Square Gully Trap
110mm	Spg	 Square Gully Trap (IP)
150x100 (6x4")	Spg	 Bottle Gully Trap
200x160 (8x6")	Spg	
150x100x100 (6x4x4")	SxSpg	
200x160x160 (8x6x6")	SxSpg	
189x280mm Note: Suitable for 6x4" and 6x4x4" Bottle gully trap.	S	 Gully Extension
75mm	Spg	 Insitu Adapter
110mm	Spg	
160mm	Spg	
200mm	Spg	
160x110mm	SpgxS	 Lateral Pipe Connector
200x110mm	SpgxS	
*250x110mm	SpgxS	
*315x110mm	SpgxS	

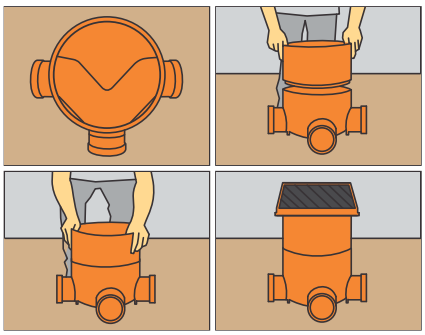
Sizes	Socket type	Items
160mm	RxR	 Coupler
110mm	CRxCR	
200mm	CRxCR	
250mm	CRxCR	
400mm	RxR	
450mm	RxR	
160mm	RxSpg	 Bend 87.5°
110mm	CRxSpg	
110mm (Short)	CRxCR	 Swept Bend Long Radius
110mm (Long)	CRxSpg	
160mm	RxSpg	 Bend 45°
110mm	CRxCR	
110mm	CRxSpg	
250mm	RxSpg	
315mm	RxSpg	
110mm	CRxCRxCR	 Swept Tee
110mm	CRxCRxSpg	
160mm	CRxCRxSpg	
160mm	RxRxSpg	 Equal Tee, Reducing Tee
110mm	CRxCRxSpg	
160mm	RxRxSpg	
160x110mm	RxRxSpg	
110mm	CRxCRxSpg	 Single Y, Reducing Y
160mm	CRxCRxSpg	
160x110mm	RxRxSpg	
160x110mm	SpgxR	 Eccentric Reducer
200x160mm	SpgxCR	
250x160mm	SpgxR	
250x200mm	SpgxR	
315x200mm	SpgxR	
315x250mm	SpgxR	
110mm	Spg	 Rodding Eye

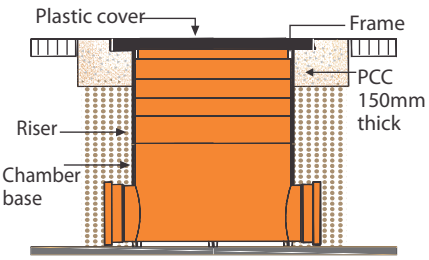
Sizes	Socket type	Items
75mm	Spg	 Blanking Plug
110mm	Spg	
160mm	Spg	
4"x110mm	RxSpg	 Stoneware Pipe Adapter for plain end (rubber ring type)
6"x160mm	RxSpg	
8"x200mm	RxSpg	 RCC Pipe Adapter
10"x250mm	RxSpg	
12"x315mm	RxSpg	
75mm		 Hole Saw
110mm		
160mm		
200mm		
50 ltrs	with cover	 Grease Trap
100 ltrs		
250 ltrs		
500 ltrs		
750 ltrs		
1000 ltrs		
110mm	Spg	 Yard Gully Trap
160mm	Spg	
110x100x1m long (4x4")		 Surface Drain Channel
110mm	Spg	 Surface Drain Outlet
110mm	Spg	 Surface Drain End Cap

*Marked products will be shortly introduced.

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.

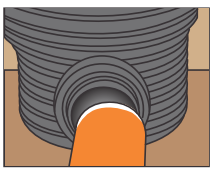




Ultra 315/450 Installation with plastic cover

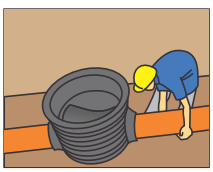
Installation procedure for Ultra 600

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



2. Apply lubricant on the rubber seal and pipe spigot. Make the joint by pushing the base to the pipe spigot.

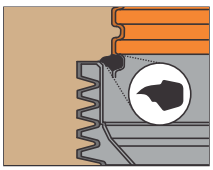
3. Ensure the correct position of Ultra 600 base on the bedding material by using spirit level.



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.

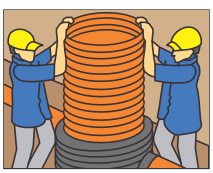
5. Cut the shaft to the required installation depth by using hand saw or electric saw. Cut should be made only on outer rib.

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



7. Check if the sealing ring is assembled correctly.

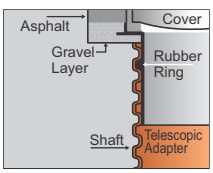
8. Apply lubricant on the inside surface of the base.

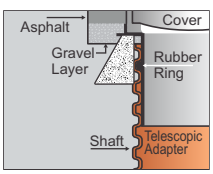


9. Push the shaft with sealing ring into the base.

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.

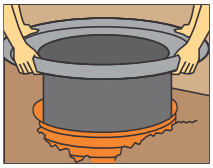
    Backfilling should be carried out immediately after placing and fixing the base in position and should continue up to the top level.



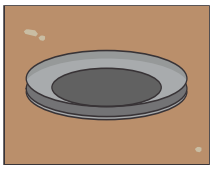


Note: *In case of 600x200mm 90° bend base, shaft is socketed & hence while connecting shaft, rubber sealing ring should be placed between top two ribs on exterior face of the base.*

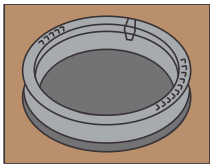
Installation procedure for Telescopic adapter



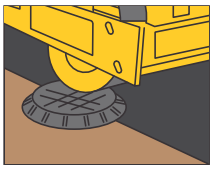
11. If telescopic adapter is essential then, put the sealing ring on inside of the shaft between the top two ribs to place the telescopic adapter.



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.



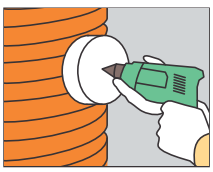
13. In case of heavy traffic the concrete layer beneath the telescopic adapter is recommended and necessary precaution should be taken to avoid direct contact between shaft and concrete.



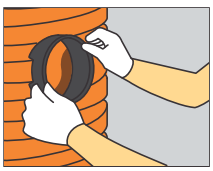
14. Place the SFRC or GRP cover of suitable load class.
15. Finish off with top layer of asphalt or prevailing finish.

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.*

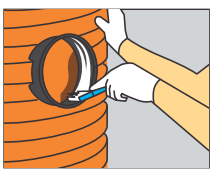
Procedure for in-situ adapter connection



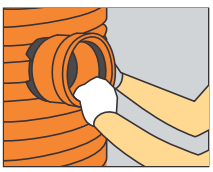
1. Drill a hole in the shaft to the required size using hole saw at the desired point of connection.



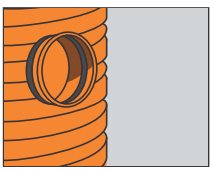
2. Remove burrs after drilling and place the rubber seal of 'in-situ' adapter in the hole.



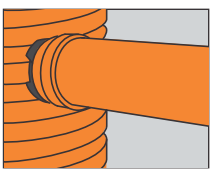
3. Apply lubricant on the inside of the rubber seal.



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.

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