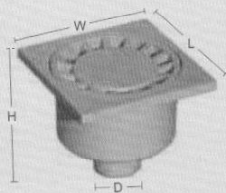


GULLY TRAPS

NEW ARRIVALS

CHPVC1550G

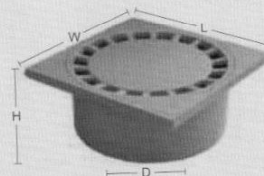
PVC GULLY TRAP



L	W	D	H
150	150	50	62

CHAPVC25G

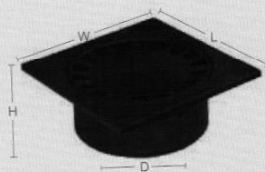
PVC GULLY TRAP (GREY)



L	W	D	H
250	250	110	100

CHAPVC25N

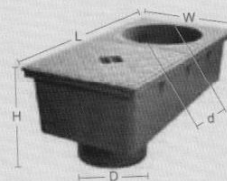
PVC GULLY TRAP (BLACK)



L	W	D	H
250	250	110	100

PSPV1611

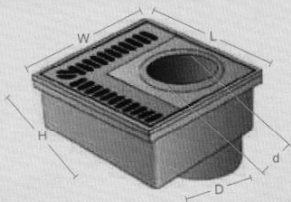
PLUVIAL BOX FOR ROUND RAIN PIPE



L	W	D	d	H
320	165	110	90-110-125	110

CHAN20G

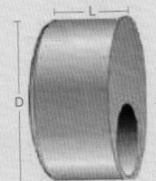
PVC CORNER GULLY TRAP



L	W	D	d	H
200	200	80-100-110	80-100	115

TAR07550

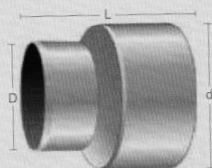
SOCKET REDUCER



L	D	d
50	75	50

RC110100

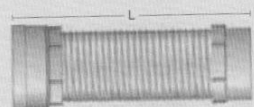
LEVEL INVERTER REDUCER



L	D	d
120	100	110

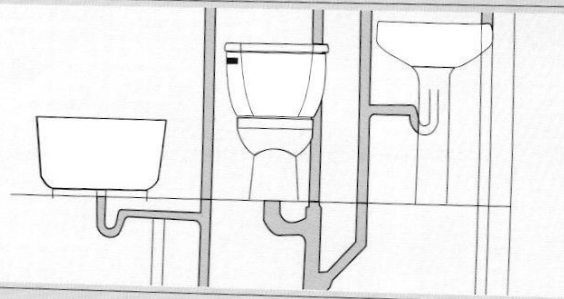
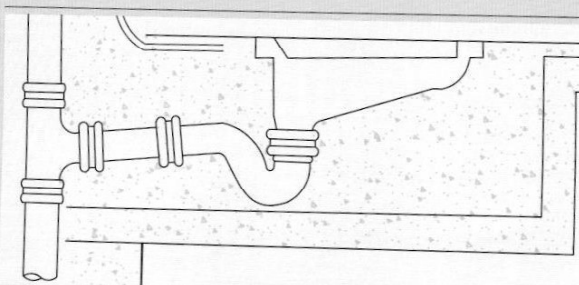
CWFL5511

WC BEND



L	D
550	110

uPVC TRAPS



Traps are very important parts of drainage and sewage system and are most critical to ensure efficient working of the system. Traps prevent foul gases or air to enter back in passage and at a same time allow waste to flow through them.

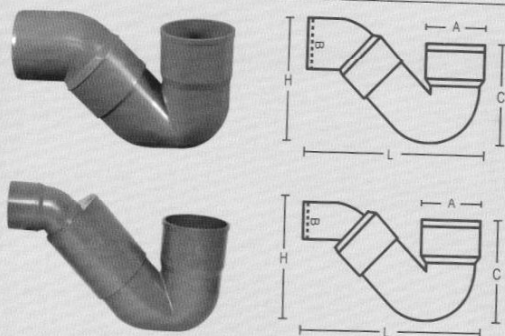
Conventional Cast Iron or cement traps are susceptible to bacterial growth due to its structure and material as they are not able to withstand the attack of salts, acidic or alkaline nature of effluent. This will lead to cracks in masonry and ultimately in inefficient working and unsatisfactory results of the system.

ASTRAL ULTRADRAIN® uPVC Traps are immune to attack of bacteria and have very good resistance to chemicals which make them most suitable for drainage system. These traps have very smooth inside surface which ensures efficient flushing of system.

Traps are available in "P", "Q" & "S" depending on the outlet angle required.

All traps have water seal well above 50 mm (normally accepted in most of the national, international and municipal guidelines) which ensure best functioning of traps.

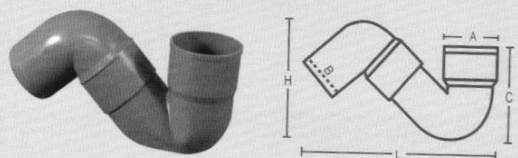
P-TRAP



SIZE (D)	PART NO.	H	L	C	A	B
75 x 75	-	150	250	128	84	75
110 x 75 (RED)	M112004329	245	400	193	110	75
110 x 110	M142003533	215	355	193	110	110
125 x 110	M142003534	215	365	193	125	110

Application : To provide water seal & efficient functioning of the drainage system.

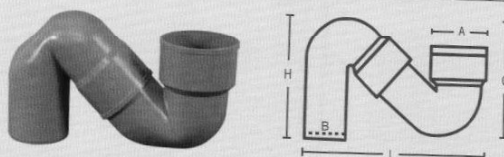
Q-TRAP



SIZE (D)	PART NO.	H	L	C	A	B
110 x 110	M142003633	213	410	193	110	110
125 x 110	M142003634	213	410	192	125	110

Application : Where the outlet is at 45° to inlet.

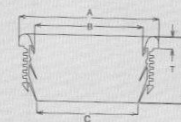
S-TRAP



SIZE (D)	PART NO.	H	L	C	A	B
110 x 110	M142003733	228	395	193	110	110
125 x 110	M142003734	230	405	192	125	110

Application : Where inlet and outlet are parallel to each other.

LIP RING FOR P/Q/S TRAP



SIZE (D)	A	B	C	T	L
125	132	105	96	10	53

RUBBER RING FOR WC CONNECTOR & BEND



SIZE (D)	A	B	L
110	120	85	30

W.C. CONNECTOR RING FOR P/Q/S TRAP



SIZE (D)	A	B	L
110	126	85	38
125	412	95	40

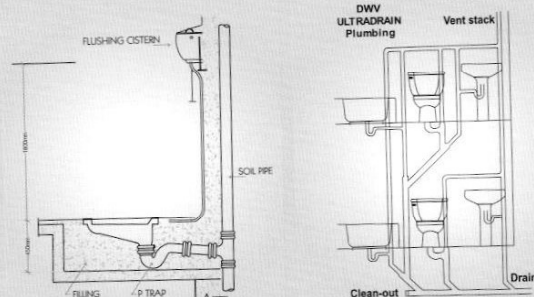
Application : Where the outlet is at 45° to inlet.

INSTALLATION OF TRAPS & TESTING THE SYSTEM

INSTALLATION OF TRAPS

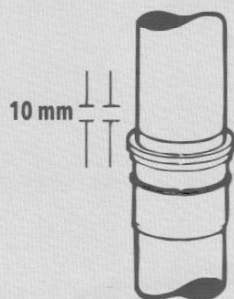
- Select right type of trap from "P" / "Q" / "S" traps as per the outlet angle required. Place the trap on firm base, pour with concrete on a slab and set it relative to the level of finished floor.
 - Concrete can be poured around "P" / "Q" / "S" trap but outlet to the trap must be left open clear to concrete.
 - Place ASTRAL W.C. connector ring to the socketed end of trap.
 - Apply rubber lubricant on W.C. connector ring and on outer side of W.C. pan. Join W.C. pan to trap by pushing W.C. pan to 125 mm socket of trap.
 - Solvent cement can be used to make joints when 110x110mm traps are being used to join connectors other than W.C. Pan connection.
- In such cases, outlet of traps can be inserted in the socketed end of pipe or fittings which ever is applicable and joint can be solvent cemented.

TYPE OF COMMON INSTALLATION



THERMAL EXPANSION & CONTRACTION

uPVC has a coefficient of linear expansion of $5.4 \times 10^{-5} \text{ mm / mm / } ^\circ\text{C}$. This means that one metre length of uPVC pipe will expand approximately 0.54 mm for each 10°C rise or fall in temperature. However due to short duration of most effluent flows and the slow temperature response of the material, the greatest thermal movement take place due to variation in environmental temperature rather than the effect of hot effluent discharge. Successful accommodation of thermal movement is dependent on the controlled direction and distribution of this movement. Specially designed rubber seal rings and gap of 10 mm while joining pipe and fittings will take care of length change in most of the cases. However, expansion loops, change in direction or offsets can also be accommodated in the system to overcome expansion and contraction issue.



**Withdraw pipe (10 mm)
This will allow for expansion.
All fittings must be
supported by a bracket
when installed vertically.**

PREPARING THE PIPELINE FOR TEST

- All joints should be inspected to ensure the correct location of the mark or groove to the coupling socket.
- Check that minimum cure time has elapsed since the last concrete thrust block or support was cast.
- Check the tightness of all ties and clamps and correct positioning of piping.

WATER TEST

Water test is the most recommended test in most plumbing code standards. The purpose of the test is to locate any leaks at the joints and correct them prior to putting system into operation since it is important to be able to visually inspect the joints, a water test should be conducted prior to closing in the piping or backfilling underground piping.

To isolate each floor or section being tested, test plugs are inserted through test fittings in the stack. All other opening should be plugged or capped with test plug or test caps. Fill the system to be tested with water at the highest point. As water fills a vertical pipe it creates hydrostatic pressure. The pressure increases as the height of water in the vertical pipe increases. Astral recommends testing at 5m of hydrostatic pressure (0.5 kg/cm²) or as per the local authority's guidelines. Filling the system slowly should allow any air in the system to escape as the water rises in the vertical pipe. All entrapped air in the system should be expelled prior to the beginning of the test. Failure to remove entrapped air may give fully test results.

Once the stack is filled to desired level of water column, a visual inspection of the section being tested should be made to check for leaks. If a leak is found, the corrective actions must be completed to find the cause of leak and to repair or replace the joint. Fifteen minutes is a suitable time for the water test. Once the system has been successfully tested, it should be drained and the next section prepared for testing.

INSTALLATION OF DWV SYSTEM IN TRENCH

One of the most significant advantages of ASTRAL DWV® uPVC pipe system is its light weight. This means that the pipe can be easily handled and longer lengths can be installed without sophisticated lifting machinery and with minimum in-trench labour.

Long pipe lengths increase the speed with which a system can be installed, and also mean that pipelines are less susceptible to misalignment and consequent blockage following possible ground movement, than those made up of short pipe lengths.

Sewer and waste pipelines rely on gravity to ensure adequate flow of fluid. Strict adherence to the designed grade along the entire pipeline is essential and the line must be maintained to specification between inspection or manhole position.

Installation of ASTRAL DWV® uPVC pipelines should be fast and efficient provided the proper guidelines are followed. The installer should also be familiar with national plumbing code together with the requirements of local authorities or municipal standards where applicable

HANDLING AND STORAGE

While ASTRAL ULTRADRAIN®, ASTRAL DRAINMASTER®, ASTRAL DWV® uPVC Foamcore pipes are light and easy to handle, careless handling can cause unnecessary damage. Pipes and fittings should not be dropped or thrown onto hard surfaces or allowed to come into contact with sharp objects that could inflict deep scratches. Foamcore pipes should not be allowed to slide across sharp edges.

BOWING

- Pipes can distort under high applied loads due to pipes not been properly supported or stacked too high or incorrectly. This can be aggravated if the pipes are hot.
- Heat sources should be avoided to reduce the risk of distortion.
- If pipes or fittings are to be stored outdoors for prolonged period they should be protected, by for example, hessian or white PE sheet in a manner that allows ventilation and avoids heat build-up.
- Pipes heated on one side by direct sunlight might tend to bow. This process is reversible and the bow can be eliminated by exposing the other side to the sunlight or otherwise allowing the temperature to become consistent before laying the pipe.

STORAGE

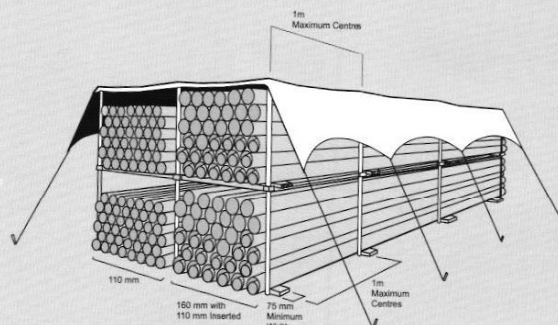
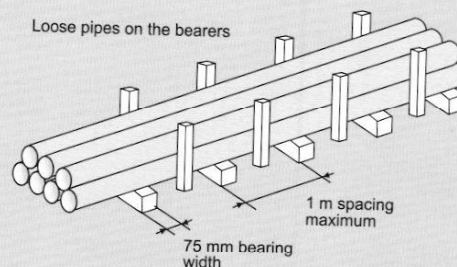
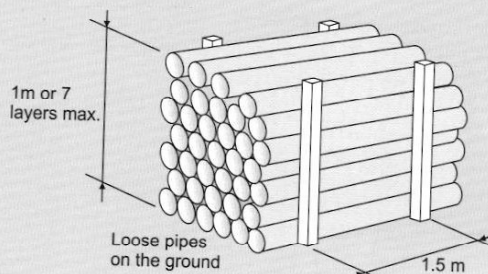
Temporary storage in the fields where racks are not provided, can be in stacks on the ground, providing this surface is level and free from loose stones or other sharp projections.

Socketed pipes should be stacked in layers with sockets placed at alternative ends of the rack, and protruding, to avoid uneven stacks and distortion. The sockets should not be load bearing. Another acceptable approach is to have alternate layers pipes facing in the same direction.

Racks for long term storage are recommended and should preferably provide continuous support, but if this is not possible then supports of at least 75mm bearing widths at 1m centres (max) should be placed beneath the pipes. Side restraints should be placed at centres not exceeding 1.5m and stacks should not exceed 1m in height.

ON SITE STORAGE

- Ideally, stacks should contain one diameter pipe size only. Where this is not possible, stack largest diameter pipes at base of stack. Small pipes may be nested inside larger pipes.
- Store all materials in well ventilated, shady conditions.
- Store fittings under cover. Do not remove from cartons or packaging until required.
- Store solvent cement and cleaning fluid in a cool place out of direct sunlight and away from any heat source.



DO'S & DON'TS

DO'S

- Always insist to use ASTRAL ULTRADRAIN®, ASTRAL DRAINMASTER®, ASTRAL DWV® rubber lubricant and solvent cement for making joints.
- Cut the pipe straight, as improper cut may lead to leakage.
- Use test plug / socket plug for testing the lines. Try to avoid smoke test.
- Avoid over tightening of door caps. Make sure that door gaskets are placed properly before tightening.

DON'TS

- Do not insert the pipe into socket of fitting without chamfering. This can lead to misplacing of rubber rings and finally leakage in piping.
- Never mix soil and waste line without putting water seal trap in between.
- Never remove rubber rings from pipes and fittings to make solvent weld joint from the same pipe or fittings. This will lead to heavy leakage or failure of system.
- Do not install pipeline without properly placed pipe clips. This is required to ensure efficient working of the system.

HANDLING AND STORAGE





LIGHT WEIGHT UPVC DRAINAGE PIPING SYSTEM

PROFILE

Foamcore pipes are basically multilayer pipes having outer and inner layers of conventional PVC and middle layer of foamed PVC. Outer and inner layers are designed to take the load and middle layer of foamed PVC gives rigidity and maintains the shape of the pipe under load. It reduces total weight of pipe and makes it light when compared to solid wall PVC pipes.

PRODUCT AVAILABILITY

Astral Foamcore pipes are available in 110 mm to 315 mm with different stiffness classes mainly categorized as SN2, SN4 & SN8. SN2 pipes are recommended for above ground applications while SN4 & SN8 pipes are recommended for below ground applications depending on the level at which these pipes have to be installed.

PRODUCT STANDARDS

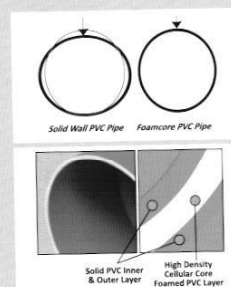
Astral Foamcore pipes are manufactured as per European and International standards published under structure wall pipes for drainage and sewerage and are mainly based on stiffness classes. These specifications are very well adopted at global levels and are in used for more than 25 years.

AVAILABLE SIZES

110 mm, 160 mm, 200 mm, 250 mm & 315 mm with stiffness class SN2, SN4 & SN8.

PRODUCT DIMENSIONS

NOMINAL RING STIFFNESS SN (KN/M ²)	2	4	8
DIMENSION RATIO (SDR)	51	41	34
NOMINAL DIAMETER DN (mm)	Wall Thickness (mm)		
110	-	2.7 + 0.5	3.2 + 0.5
160	3.2 + 0.5	4.0 + 0.6	4.7 + 0.7
200	3.9 + 0.6	4.9 + 0.7	5.9 + 0.8
250	4.9 + 0.7	6.2 + 0.8	7.3 + 1.0
315	6.2 + 0.8	7.7 + 1.0	9.2 + 1.2



KEY PROPERTIES AND BENEFITS

Astral Foamcore uPVC pipes are suitable for residential and commercial drain, waste & vent piping systems for both underground and above ground applications with top quality raw materials and state-of-the art processing technology, Astral Foamcore pipes meet all industrial standards in addition to our own rigorous quality control standards.

WHY FOAMCORE PIPES ?

Astral Foamcore uPVC pipe is typical of solid wall PVC under load and the type of distortion normally expected. The Foamcore pipe on the right, under equal load, distributes the load more evenly and does not show the same amount of distortion, as it has unique "I-Beam" structure. Due to its ability of absorbing the load, Foamcore pipes are most suitable for underground drainage systems, where soil exerts a lot of pressure on pipe surfaces. In solid wall pipes this soil pressure will rupture the pipe after some time where Foamcore pipes give better life as foamed PVC layer will absorb pressure and make pipes "stress free" in working conditions.

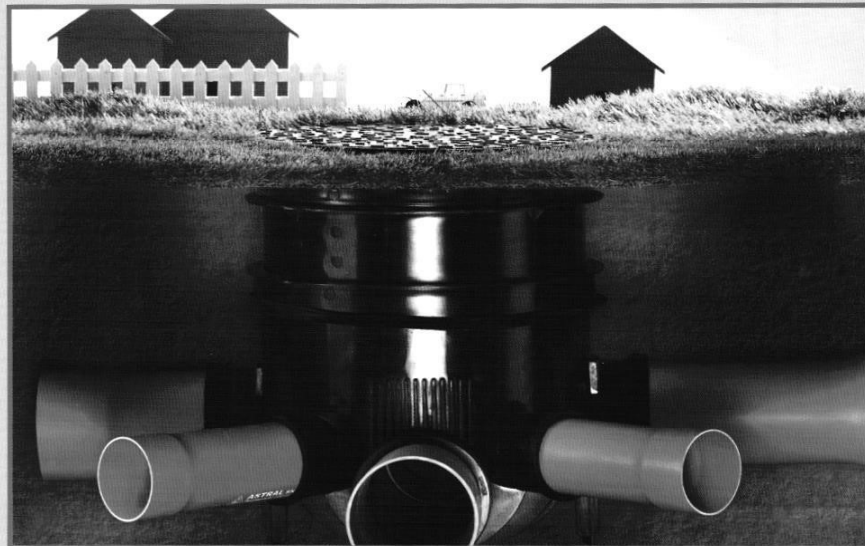
RINGFIT PIPE

Ringfit pipes are socketed on automatic online socketing machine with very high degree of accuracy. The socket has groove inside for rubber ring. The rubber ring ensures trouble free water tight joint with allowance to thermal expansion / contraction. One end of the pipe is plain and other end is self socketed with an integral groove to hold the rubber gasket. When joined with a rubber ring, the joint formed is a trouble free, water tight one, ready to take care of thermal expansion / contraction.

SELFIT PIPE

Selfit pipes are socketed on automatic socketing machine with self socket length (without groove). Such pipes are to be joined with solvent cement. One end of the pipe is plain and the other end is self socketed on sophisticated automatic machines for high degree of accurate diameters. The pipes when joined using solvent cement, form a permanent water tight joint.





ULTRA MODERN DRAINAGE SYSTEM

INTRODUCTION

Over the years Astral® is committed to introduce innovative plumbing products in Indian market to better serve plumbing industry. Astral® provides next generation integrated drainage solution using latest manufacturing technology.

For many years drainage engineers and contractors have been forced to make a traditional methods to make drainage system of a building. Astral® offers Underground drainage system with strength and durability, installation speed, long term performance, cost effectiveness and superior quality of a complete drainage system.

Astral Underground® drainage products are manufactured using state-of-the-art production technology which provides comprehensive range of robust, lightweight and extremely durable drainage products with unparalleled long term performance.

AVAILABLE SIZE*

315 mm & 450 mm chamber base with riser and top cover

* shortly introducing 315mm and 355mm chamber in different configuration

KEY FEATURES

Strength : Long term stiffness and strength

Durable : Never corrode and hence ment for long life performance

Flexibility : Various molded and fabricated fittings for easy of installation and flexibility

Installation : Easy and quick installation compared to traditional drainage system

Cost benefits : Reduced installation cost

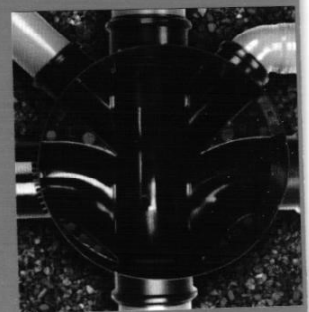
BENEFITS

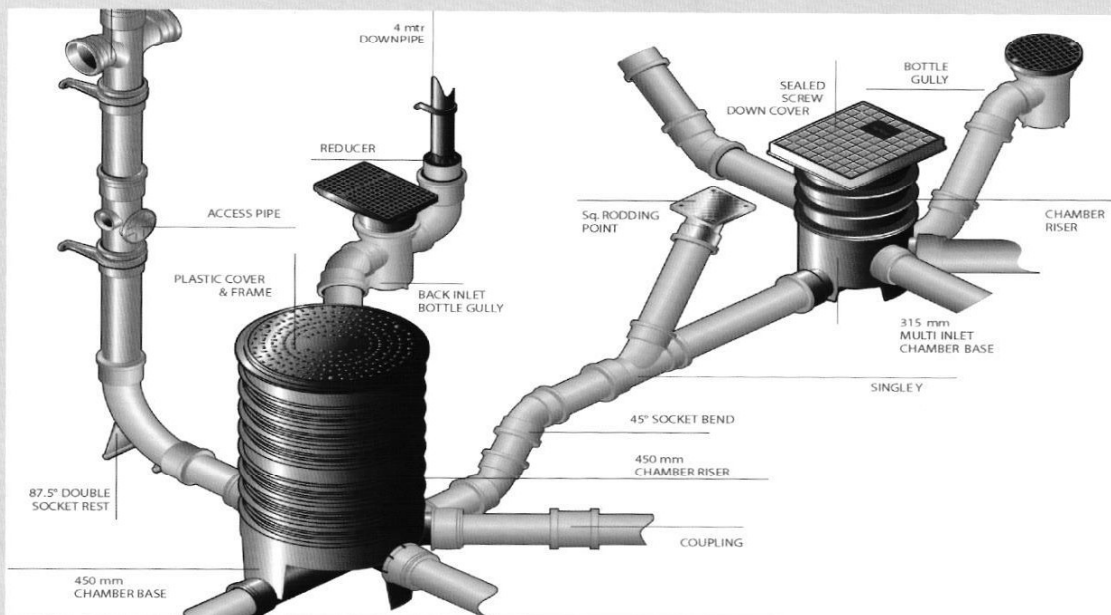
- Push Fit System
- Easy Installation
- Maintenance Free
- Longer Life
- Cost Saving



APPLICATIONS

Astral Underground® drainage system is ideal to used in single house application to multi floors buildings, hotels, hospitals, shopping malls, academic institutes upto the main lines.





ASTRAL® INSPECTION CHAMBERS

Astral Underground® system is completely watertight and intended to carry soil and waste from S.W.R. drainage system to roadside sewers or drains and from there to treatment plant or disposal point. This system is advantageous over traditional drainage products for all drainage and sewerage application and highly recommended for buildings where hygiene is a prerequisite such as hospital, hotels, etc.

Astral Underground® system can also be used for rainwater collection and disposal, including rainwater harvesting. In short, the system provides complete solution for underground drainage and sewerage applications. Unlike conventional drainage products, there is no fear of pollution of underground water, soil or ill effects on building foundations. The 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. Astral's Inspection Chambers have been designed to offer easier and more economical alternatives to traditional construction methods. They are made of a tough polypropylene material, are impact resistant, simple and straightforward to install. The chamber raising pieces are designed for simple dry joining, providing an instant watertight joint. They have strengthening ribs and webbing. The raising pieces can be simply built-up to the required overall height between the chamber base and cover. Both Astral® 315 & 450 mm preformed units comply with all current regulations. They are designed with a built-in fall for good flow performance.



KEY PROPERTIES AND BENEFITS



GREAT FLEXIBILITY :

Due to availability of ready made inspection chambers, long lengths of lighter weight pipes and different components, installation of this system is very convenient and fast.



PERFECT HYDRAULIC PROPERTIES :

The chambers are designed with in built slope which increase the hydraulic capabilities of the system.



GREAT STRENGTH :

System is sufficiently durable to meet site loading requirements.



WATERTIGHT SYSTEM :

Pipe, riser or 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 joining technique, trench width can be kept minimum and smoother bore of the pipe allow high flow rates at relatively flatter gradients..



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 sufficiently durable, and offers long and trouble free service.

