



ASTRAL[®] PIPES

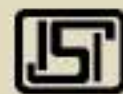
A
LOOK
INSIDE
YOUR
PLUMBING
VENTILATION,
SANITATION
AND
DRAINAGE
SOLUTIONS.



Where innovation flows...

ASTRAL has been the first company to bring piping innovations in India

- First to introduce CPVC piping system in India (1999)
- First to launch lead free uPVC piping system in India (2004)
- Corp Excel- National SME Excellence Award (2006)
- First to get NSF Certification for CPVC piping system in India (2007)
- First to launch lead free uPVC column pipes in India (2012)
- Enterprising Entrepreneur of the Year Award 2012-13
- Business Standard Star SME of the Year Award (2013)
- Inc. India Innovative 100 award - Smart Innovation under Category of 'Technology' (2013)
- India's Most Promising Brand Award (2014)
- Value Creator Award during the first ever Fortune India Next 500 (2015)
- India's Most Trusted Brand Award (2015)
- India's Most Trusted Pipe Brand Award (2016)
- ET Inspiring Business Leaders of India Award (2016)
- India's Most Attractive Pipe Brand Award (2016)
- Fortune India 500 Company (2016)



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About Astral

Astral Poly Technik Limited was established in 1996 with the aim to manufacture pro-India plumbing and drainage systems for the Indian market. While serving the plumbing needs of millions of houses, the company adds extra mileage to India's developing real estate fraternity. Our contribution to the plumbing industry in the form of being pro-innovative bears the hallmark of unbeaten quality. Astral Poly Technik Limited is equipped with production facilities at Sentej & Dholka (Gujarat), and Hosur (Tamil Nadu) to manufacture Plumbing systems, Drainage systems, Agriculture and Electrical Conduit Pipes with all kinds of necessary fittings.

We are also known as pro-customers' company as we serve with an intention of taking excellence to new heights. Through our quality products and services we have also achieved the benchmark of being Pro-India Company in numerous ways.





Quality approvals & Certifications

Astral regularly test the finished products by testing its resistance to impact and pressure as well as other ASTM or DIN tests. In addition, they regularly test pipes, randomly selected from the market place. Various testing methods like OD/ID (Dimension) checking, Flattening, Burst pressure, Drop Impact, Heat Reversion etc. are carried out at regular intervals to keep quality very high.

In order to deliver consistent high quality pipes and fittings to end users, Astral has a Quality Assurance Program. This Quality Assurance Program intends quality levels to exceed the requirements of ASTM and other industrial standards. The program also includes regular visits of partners from USA to upgrade and to implement Quality Assurance Plan effectively.



IS 13592 : 1992



IS 14735 : 1999



IS 16098 : Part 1 : 2013

Business Partners

SEKISUI

SEKISUI INC. was established in 1947 in order to run general plastic business in Japan. In 1948 changed the company name to SEKISUI CHEMICAL CO. LTD. SEKISUI began producing CPVC some 40 years ago in 1974. Its CPVC is high-quality, stable product achieved as a result of the sophisticated technologies and quality controls that SEKISUI has accumulated over that long history.



SPEARS® broad product line offers a complete selection of 1/8" through 12" injection molded fittings and fabricated fittings through 48", many specialty products, and a full complement of manual and mechanically actuated thermoplastic valves in a variety of types, sizes, and configurations.

IPS

IPS Corporation was the first company to produce a reliable cement for use with PVC and CPVC pipe and fittings. IPS products are recognized for their labor saving efficiency and convenience.

SUBSIDIARIES

RESINOVA®
an **ASTRAL** company

Resinova manufactures a diversified range of adhesives, sealants, putties and construction aids. Our products are mostly pioneering efforts whose advantages has been taken of our knowledge of different chemistries such as epoxy, silicones, acrylics, cyanoacrylates, UV cure, PVA etc. Our products stand for quality and reliability and are marketed through a network of about more than 2000 distributors and 4,50,000 dealers across the country.

bond it - UK
an **ASTRAL** company

For almost two decades, Bond It has been a manufacturer of high performance, high quality building chemicals such as sealants, adhesives, grouts, cleaners, expanding foams, fillers, decorating sundries, landscaping products and other similar products.

bond it - USA
an **ASTRAL** company

Seal IT Services Limited, a UK based subsidiary of the Astral Poly Technik Ltd. has entered into U.S. market by acquiring silicone tape business of Rowe Industries Inc., USA.

Astral Product Range



PLUMBING



INDUSTRIAL



DRAINAGE



FIRE PROTECTION



AGRICULTURE



ELECTRICAL CONDUIT



ANCILLARY

ASTRAL ULTRADRAIN® CONVENTIONAL SYSTEM



CONVENTIONAL DRAINAGE SYSTEM

PROFILE

Astral Ultradrain® is a uPVC conventional drainage system for soil, waste and rain water. This system enables fast and efficient removal of waste without blockage and leakage. Its high impact strength, chemical and corrosion resistance, Long life and virtually zero maintenance have made Astral Ultradrain® system a preferred drainage and rain water system among architects, builders and plumbing contractors.

The state of the art equipments and virgin raw material used to produced Astral Ultradrain® SWR system. The system is available from 75mm to 160mm, the entire range is manufactured as per internationally accepted quality standards and specifications.

APPLICATIONS

Astral Ultradrain® drainage system can be applicable at houses, offices, hotels, commercial complex, industries, hospitals as well as at airports, railway stations, stadiums, theaters etc. for waste discharge, ventilation and rain water management.

ADVANTAGES

Specially designed Astral Ultradrain® drainage system offers numerous advantages over conventional drainage systems. A large numbers of dealers, distributors and field staff are always on to for uninterrupted supply of products to the end users.

AVAILABLE SIZE

75 mm, 90 mm, 110 mm, 160 mm (Type A & B) groove and pasting type.



KEY PROPERTIES AND BENEFITS



STRONGER, RESILIENT & LIGHT WEIGHT

Astral Ultradrain® system is highly resilient and tough with good mechanical strength and high impact resistance. At the same time this system is very light in weight which gives highest benefit to the end user in terms of transportation, installation and long service life.



CORROSION RESISTANCE

The inert nature of Astral Ultradrain® uPVC drainage system provide complete corrosion resistance and renders wrapping, coating and lining unnecessary. It also ensures that uPVC sewer and drainage pipes have long operational life compared to conventional asbestos or cast iron systems.



NON CONDUCTIVE

Astral Ultradrain® uPVC drainage system is a non conductor of electricity and is therefore not subject to galvanic or electrolytic action.



CHEMICAL RESISTANCE

Astral Ultradrain® uPVC drainage system is inert to most of the acids, alkalis, effluents, salts, minerals and aggressive soils. The system remains unaffected by transportation of such type of media and gives longer life with trouble free service.



FLAMMABILITY

Astral Ultradrain® uPVC drainage system does not support combustion and is inherently difficult to ignite. It also stops burning once the source of heat is removed.



UV STABILIZED

Astral Ultradrain® uPVC drainage system is UV stabilized which gives protection to the system while being operational in direct sun light.



HIGH FLOW RATES

Extremely smooth bores, precision joints and lack of internal projections ensure unrivaled hydraulic capacity over the total life of the system.



QUICK & EASY INSTALLATIONS

Astral Ultradrain® pipes and fittings can be joined together with rubber ring or solvent weld system. These techniques are very simple and ensure 100% leak proof system at a reduced installation time with lower maintenance.



VERSATILE AND ELEGANT

The physical properties of PVC allow designers a high degree of freedom while designing with Superb finished pipes and fittings.



ECONOMICAL

Astral Ultradrain® uPVC drainage system is more cost effective than any other conventional drainage systems available in market.



ENVIRONMENTAL IMPACT

uPVC has a lower feedstock energy especially compared to other polymers and common building materials. It is the least energy intensive of all thermoplastics. In life cycle analysis and independent studies, PVC's environmental impact has been found most favorable, so the more usage of PVC will greatly help to keep our global natural resources intake for longer period of time. It does not pollute air, water or land during manufacturing or service life and can be recycled after prolonged service life.

PRODUCT SPECIFICATIONS

ULTRADRAIN PIPES

Astral Ultradrain® ISI marked pipes are available in both ringfit & selfit pipe with two different class of pipes named as "TYPE A" & "TYPE B". TYPE A pipes are recommended for use in ventilation and rain water applications while TYPE B pipes are recommended for soil and waste discharge applications. Pipes are available in all sizes and in different lengths with single socket and double socket.

RINGFIT PIPES - (Type A & Type B)

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 the other 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.

Sizes : 75 mm, 90 mm, 110 mm, 160 mm



SELFIT PIPES - (Type A & Type B)

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 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.

Sizes : 75 mm, 90 mm, 110 mm, 160 mm



| NOMINAL DIAMETER | MEAN OUTSIDE DIAMETER | | TYPE A WALL THICKNESS | | TYPE B WALL THICKNESS | |
|------------------|-----------------------|-------|-----------------------|------|-----------------------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. |
| 75 | 75.0 | 75.3 | 1.8 | 2.2 | 3.2 | 3.8 |
| 90 | 90.0 | 90.3 | 1.9 | 2.3 | 3.2 | 3.8 |
| 110 | 110.0 | 110.4 | 2.2 | 2.7 | 3.2 | 3.8 |
| 160 | 160.0 | 160.5 | 3.2 | 3.8 | 4.0 | 4.6 |

All dimensions are in mm and are same for Ringfit and Selfit pipes. Only socket geometry is different.

ULTRADRAIN FITTINGS

Astral Ultradrain® ISI marked fittings are available in both grooved ring and pasting type in full range starting from 75 mm to 160 mm and are fully compatible with Astral Ultradrain® Pipes.

GROOVED RING TYPE

Grooved ring type fittings are self socketed with groove to hold the rubber ring. The grooves are made on highly accurate online socketing machines that give highest quality, performance and satisfaction.



PASTING TYPE

Pasting type fittings are self socketed on highly automatic machines. These fittings are to be joined with solvent cement.



TESTING REQUIREMENTS

Astral Ultradrain® uPVC pipes & fittings are manufactured subject to strict and continuous control over raw materials, production, dimensions & identification. The rigorous testing and quality control throughout the entire process ensures that Astral Ultradrain® System is highly reliable and efficient in working.



PIPES ARE SUBJECT TO TESTS LIKE.

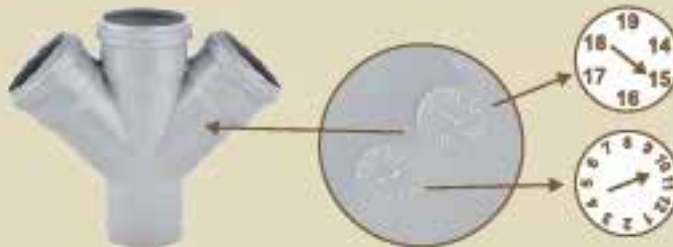
- Tensile Strength
- Reversion
- Vicat softening temp. test
- Water tightness of joint
- Axial Shrinkage.
- Impact Strength
- Stress relief test
- Exposure to Sunlight
- Resistance to H₂SO₄

FITTING ARE SUBJECT TO TESTS LIKE.

- Impact Strength
 - Stress relief test
 - Vicat Softening temp. test
 - Water tightness of joint
 - Resistance to H₂SO₄
 - Sulphated Ash content
- Note: The acceptance criteria for test results obtained are as per widely accepted International and National Standards.

UNIQUE IDENTIFICATION :

Each fitting is having unique identification known as "Clock". This system ensures 100% traceability to every production lot.



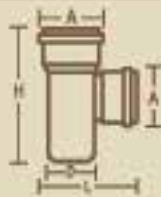
THERMAL EXPANSION AND CONTRACTION :

Astral Ultradrain® piping system will undergo thermal expansion and contraction like any other thermoplastic materials. The thermal expansion & contraction depends on the co-efficient of thermal expansion (5.4×10^{-5} mm / mm /°C for PVC), length of piping and temperature difference encountered by the piping. Normally for drainage & sewerage system temperature difference of atmosphere will affect more to thermal movements of piping rather than effluent temperatures as full bore discharges are normally not happened for prolong time and also these discharges are periodic in nature. Still expansion & contraction issue needs to be addressed. For solvent weld systems, change in direction, offset or expansion loops are recommended while for ringfit joining systems specially designed rubber rings and proper joining of pipes and fittings will take care of length change. Please refer joining method section of this catalogue for more details.



ASTRAL ULTRADRAIN® GROOVED TYPE FITTINGS

SINGLE TEE



| SIZE (D) | | | | | |
|----------|------------|-----|-----|-----|-----|
| 75 | M112000107 | 3.2 | 90 | 186 | 135 |
| 90 | M112000108 | 3.2 | 105 | 233 | 170 |
| 110 | M112000109 | 3.2 | 127 | 258 | 193 |
| 160 | M112000112 | 4.0 | 182 | 362 | 270 |

Application : Required to connect branch soil / waste line to main line at an angle of 87.5°.

REDUCING TEE



| #90 x 75 | | | | | |
|------------|-----|-----------|-----|-----|--|
| M112000330 | 3.2 | 105 x 90 | 232 | 152 | |
| M112000329 | 3.2 | 127 x 90 | 260 | 175 | |
| M112000335 | 4.0 | 182 x 90 | 343 | 229 | |
| M112000331 | 4.0 | 182 x 127 | 343 | 235 | |

Application : Required to connect branch line at 87.5°/92.5°

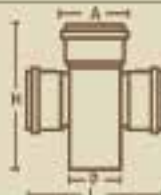
SINGLE TEE L-H WITH DOOR



| 75 | M112000507 | 3.2 | 90 | 186 | 137 |
|-----|------------|-----|-----|-----|-----|
| 110 | M112000509 | 3.2 | 127 | 258 | 185 |

Application : Same as plain Tee with option of L-H door for cleaning purpose.

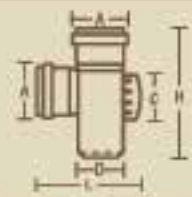
CROSS TEE



| 75 | M112000707 | 3.2 | 90 | 187 | 185 |
|-----|------------|-----|-----|-----|-----|
| 110 | M112000709 | 3.2 | 127 | 257 | 255 |

Application : Required to connect two adjacent branch line at an angle of 87.5°/92.5°

SINGLE TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112000207 | 3.2 | 90 | 186 | 176 | 79 |
| 90 | M112000208 | 3.2 | 105 | 233 | 193 | 92 |
| 110 | M112000209 | 3.2 | 127 | 258 | 224 | 107 |
| 160 | M112000212 | 4.0 | 182 | 362 | 298 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

REDUCING TEE WITH DOOR



| #90 x 75 | | | | | |
|------------|-----|-----------|-----|-----|-----|
| M112000430 | 3.2 | 105 x 90 | 232 | 173 | 79 |
| M112000429 | 3.2 | 127 x 90 | 260 | 207 | 107 |
| M112000435 | 4.0 | 182 x 90 | 343 | 266 | 107 |
| M112000431 | 4.0 | 182 x 127 | 343 | 277 | 107 |

Application : Same as Reducing Tee with option of door for cleaning purpose.

SINGLE TEE R-H WITH DOOR



| 75 | M112000607 | 3.2 | 90 | 186 | 137 |
|-----|------------|-----|-----|-----|-----|
| 110 | M112000609 | 3.2 | 127 | 258 | 185 |

Application : Same as plain Tee with option of R-H door for cleaning purpose.

CROSS TEE WITH DOOR



| 75 | M112000807 | 3.2 | 90 | 187 | 185 |
|-----|------------|-----|-----|-----|-----|
| 110 | M112000809 | 3.2 | 127 | 257 | 255 |

Application : Same as cross Tee with option of door for cleaning purpose.

ASTRAL ULTRADRAIN® GROOVED TYPE FITTINGS

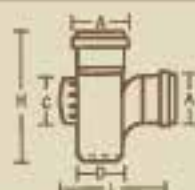
SWEPT TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M112000907 | 3.2 | 90 | 204 | 155 |
| 110 | M112000909 | 3.2 | 127 | 265 | 205 |

Application : Same as plain Tee.

SWEPT TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112001007 | 3.2 | 90 | 204 | 175 | 79 |
| 110 | M112001009 | 3.2 | 127 | 265 | 230 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

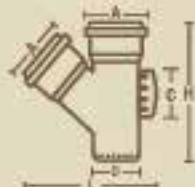
SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M112001907 | 3.2 | 90 | 217 | 180 |
| 90 | M112001908 | 3.2 | 105 | 258 | 207 |
| 110 | M112001909 | 3.2 | 127 | 294 | 266 |
| 160 | M112001912 | 4.0 | 182 | 412 | 347 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45°.

SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112002007 | 3.2 | 90 | 217 | 200 | 79 |
| 90 | M112002008 | 3.2 | 105 | 258 | 223 | 92 |
| 110 | M112002009 | 3.2 | 127 | 294 | 273 | 107 |
| 160 | M112002012 | 4.0 | 182 | 412 | 370 | 107 |

Application : Same as plain 'Y' with option of door for cleaning purpose.

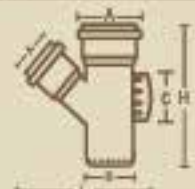
REDUCING SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|-----------|------------|-----|-----------|-----|-----|
| 110 x 75 | M112002129 | 3.2 | 127 x 90 | 250 | 215 |
| 160 x 75 | M112002135 | 3.2 | 182 x 90 | 282 | 284 |
| 160 x 110 | M112002131 | 3.2 | 182 x 127 | 332 | 310 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45° with reduction of size.

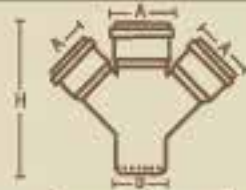
REDUCING SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|-----------|------------|-----|-----------|-----|-----|-----|
| 110 x 75 | M112002229 | 3.2 | 127 x 90 | 250 | 242 | 107 |
| 160 x 75 | M112002235 | 3.2 | 182 x 90 | 282 | 284 | 304 |
| 160 x 110 | M112002231 | 3.2 | 182 x 127 | 332 | 310 | 330 |

Application : Same as reducing 'Y' with option of door for cleaning purpose.

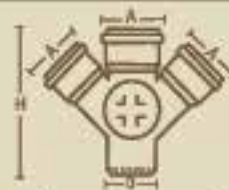
DOUBLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M112002307 | 3.2 | 90 | 215 | 261 |
| 110 | M112002309 | 3.2 | 127 | 295 | 375 |

Application : Required to connect 2 branch soil/waste pipeline to the main vertical line at an angle of 45°.

DOUBLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112002407 | 3.2 | 90 | 215 | 261 | 79 |
| 110 | M112002409 | 3.2 | 127 | 295 | 375 | 107 |

Application : Same as Double 'Y' with option of door for cleaning purpose.

ASTRAL ULTRADRAIN® GROOVED TYPE FITTINGS

BEND 87.5°



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M112001207 | 3.2 | 90 | 146 | 134 |
| 90 | M112001208 | 3.2 | 105 | 174 | 173 |
| 110 | M112001209 | 3.2 | 127 | 198 | 175 |
| 160 | M112001212 | 4.0 | 182 | 276 | 267 |

Application : Required to connect internal pipeline to main pipeline & also for direction change at an angle of 87.5°.

BEND 87.5° WITH DOOR (TS)



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112001307 | 3.2 | 90 | 146 | 155 | 79 |
| 90 | M112001308 | 3.2 | 105 | 147 | 191 | 92 |
| 110 | M112001309 | 3.2 | 127 | 198 | 210 | 107 |
| 160 | M112001312 | 4.0 | 182 | 276 | 280 | 107 |

Application : Same as Bend with option of door for cleaning purpose.

BEND 87.5° L-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112001407 | 3.2 | 90 | 143 | 135 | 79 |
| 110 | M112001409 | 3.2 | 127 | 196 | 185 | 107 |

Application : Same as Bend with option of L-H door for cleaning purpose.

BEND 87.5° R-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112001507 | 3.2 | 90 | 143 | 135 | 79 |
| 110 | M112001509 | 3.2 | 127 | 196 | 185 | 107 |

Application : Same as Bend with option of R-H door for cleaning purpose.

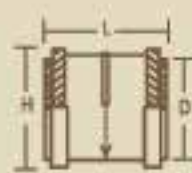
45° BEND



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M112001107 | 3.2 | 90 | 153 | 120 |
| 90 | M112001108 | 3.2 | 105 | 189 | 140 |
| 110 | M112001109 | 3.2 | 127 | 207 | 168 |
| 160 | M112001112 | 4.0 | 182 | 260 | 233 |

Application : Required as a shoe for drainage line & also for direction change at an angle of 45°.

COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M112001607 | 3.2 | 90 | 105 |
| 90 | M112001608 | 3.2 | 105 | 116 |
| 110 | M112001609 | 3.2 | 127 | 130 |
| 160 | M112001612 | 4.0 | 180 | 158 |

Application : Required to connect two length of pipe.

INVERT 'Y' 45°



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|----|-----|-----|
| 75 | M112002507 | 3.2 | 90 | 221 | 180 |

Application : Required to connect two branches an angle of 45° with invert socket.

CLEANSING PIPE

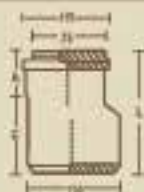


| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M112002607 | 3.2 | 90 | 187 | 118 | 79 |
| 110 | M112002609 | 3.2 | 127 | 258 | 143 | 107 |
| 160 | M112002612 | 4.0 | 182 | 345 | 207 | 107 |

Application : Used in between a vertical line to facilitate cleaning.

ASTRAL ULTRADRAIN® GROOVED TYPE FITTINGS

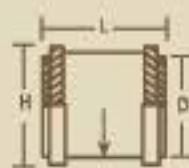
REDUCER



| SIZE (D x d) | PART NO. | WT. | A | H-1 | L | C |
|--------------|------------|-----|----|-----|-----|-----|
| 90 x 75 | M112001830 | 3.2 | 45 | 91 | 137 | 93 |
| 110 x 75 | M112001829 | 3.2 | 58 | 90 | 151 | 92 |
| 110 x 90 | M112001843 | 3.2 | 55 | 105 | 161 | 105 |
| 160 x 75 | M112001835 | 4.0 | 90 | 85 | 175 | 90 |
| 160 x 110 | M112001831 | 4.0 | 68 | 127 | 186 | 117 |

Application : Required to reduce 110mm dia. pipe to 75 mm dia. pipe.

REPAIR COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M112001707 | 3.2 | 90 | 105 |
| 110 | M112001709 | 3.2 | 127 | 130 |

Application : Required to repairing of pipe, having small cracks / holes / dents.

RINGFIT JOINING METHOD

1. CUT PIPE :

Cut pipe square. As joints are sealed at the base of the fitting socket. An angled cut may result in joint failure.



2. REMOVE BURR AND BEVEL :

Remove all burr from inside and outside of pipe with a knife-edge file, or deburring tool. Chamfer (bevel) the end of the pipe 10° -15°



CLEAN :

Remove surface dirt, grease, or moisture with a clean dry cloth.

3. INSERT PIPE :

Insert the pipe in to the socket without the seal ring and mark along the pipe, when it is fully inserted.



4. FIX RUBBER RING :

Fix the rubber ring in the groove without twisting it.

5. APPLY LUBRICANT :

Apply jointing lubricant to the chamfered end of the pipe & on rubber ring up to the mark made on spigot or to the socket end of fitting.



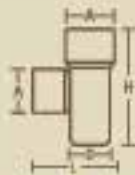
6. JOIN PIPE AND FITTINGS :

Push the pipe firmly into the socket till the gap between the mark on the spigot and the socket is about 10 mm to allow thermal expansion.



ASTRAL ULTRADRAIN® PASTING TYPE FITTINGS

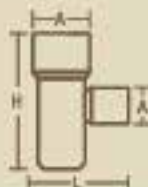
SINGLE TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142000107 | 3.2 | 82 | 190 | 140 |
| 90 | M142000108 | 3.2 | 97 | 236 | 165 |
| 110 | M142000109 | 3.2 | 117 | 264 | 195 |
| 160 | M142000112 | 4.0 | 168 | 368 | 285 |

Application : Required to connect branch soil / waste line to main line at an angle of 87.5°.

REDUCING TEE



| SIZE (Dxd) | PART NO. | WT. | A | H | L |
|------------|------------|-----|-----------|-----|-----|
| 90 x 75 | M142000330 | 3.2 | 97 x 82 | 236 | 157 |
| 110 x 75 | M142000329 | 3.2 | 117 x 82 | 265 | 179 |
| 160 x 75 | M142000335 | 4.0 | 168 x 82 | 350 | 233 |
| 160 x 110 | M142000331 | 4.0 | 168 x 172 | 350 | 240 |

Application : Required to connect branch line at 87.5°/92.5°

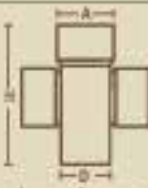
SINGLE TEE L-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142000507 | 3.2 | 82 | 190 | 140 | 79 |
| 110 | M142000509 | 3.2 | 117 | 261 | 193 | 107 |

Application : Same as plain Tee with option of L-H door for cleaning purpose.

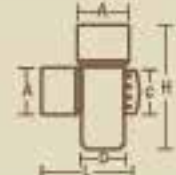
CROSS TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142000707 | 3.2 | 82 | 190 | 206 |
| 110 | M142000709 | 3.2 | 117 | 262 | 277 |

Application : Required to connect two adjacent branch line at an angle of 87.5°/92.5°

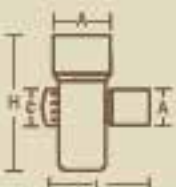
SINGLE TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142000207 | 3.2 | 82 | 190 | 172 | 79 |
| 90 | M142000208 | 3.2 | 97 | 236 | 198 | 92 |
| 110 | M142000209 | 3.2 | 117 | 264 | 233 | 107 |
| 160 | M142000212 | 4.0 | 168 | 368 | 318 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

REDUCING TEE WITH DOOR



| SIZE (Dxd) | PART NO. | WT. | A | H | L | C |
|------------|------------|-----|-----------|-----|-----|-----|
| 90 x 75 | M142000430 | 3.2 | 97 x 82 | 236 | 177 | 79 |
| 110 x 75 | M142000429 | 3.2 | 117 x 82 | 265 | 211 | 107 |
| 160 x 75 | M142000435 | 4.0 | 168 x 82 | 350 | 270 | 107 |
| 160 x 110 | M142000431 | 4.0 | 168 x 117 | 350 | 277 | 107 |

Application : Same as Reducing Tee with option of door for cleaning purpose.

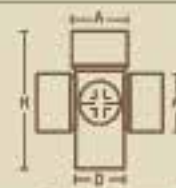
SINGLE TEE R-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142000607 | 3.2 | 82 | 190 | 140 | 79 |
| 110 | M142000609 | 3.2 | 117 | 261 | 193 | 107 |

Application : Same as plain Tee with option of R-H door for cleaning purpose.

CROSS TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142000807 | 3.2 | 82 | 190 | 206 | 79 |
| 110 | M142000809 | 3.2 | 117 | 262 | 277 | 107 |

Application : Same as cross Tee with option of door for cleaning purpose.

ASTRAL ULTRADRAIN® PASTING TYPE FITTINGS

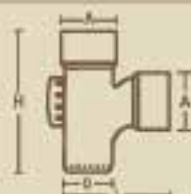
SWEPT TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142000907 | 3.2 | 82 | 208 | 160 |
| 110 | M142000909 | 3.2 | 117 | 273 | 212 |

Application : Same as plain Tee.

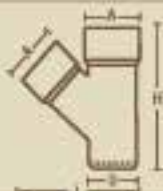
SWEPT TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142001007 | 3.2 | 82 | 208 | 180 | 79 |
| 110 | M142001009 | 3.2 | 117 | 273 | 236 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

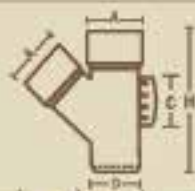
SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142001907 | 3.2 | 82 | 220 | 175 |
| 90 | M142001908 | 3.2 | 97 | 260 | 207 |
| 110 | M142001909 | 3.2 | 117 | 298 | 253 |
| 160 | M142001912 | 4.0 | 168 | 417 | 348 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45°.

SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142002007 | 3.2 | 82 | 220 | 202 | 79 |
| 90 | M142002008 | 3.2 | 97 | 260 | 225 | 92 |
| 110 | M142002009 | 3.2 | 117 | 298 | 290 | 107 |
| 160 | M142002012 | 4.0 | 168 | 417 | 382 | 107 |

Application : Same as plain 'Y' with option of door for cleaning purpose.

REDUCING SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|-----------|------------|-----|-----------|-----|-----|
| 110 x 63 | M142002132 | 3.2 | 117 x 70 | 253 | 202 |
| 110 x 75 | M142002129 | 3.2 | 117 x 82 | 253 | 210 |
| 160 x 75 | M142002135 | 3.2 | 162 x 82 | 288 | 286 |
| 160 x 110 | M142002131 | 3.2 | 168 x 117 | 337 | 312 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45° with reduction of size.

REDUCING SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|-----------|------------|-----|-----------|-----|-----|-----|
| 110 x 63 | M142002232 | 3.2 | 117 x 70 | 253 | 234 | 107 |
| 110 x 75 | M142002229 | 3.2 | 117 x 82 | 253 | 247 | 107 |
| 160 x 75 | M142002235 | 3.2 | 162 x 82 | 288 | 286 | 107 |
| 160 x 110 | M142002231 | 3.2 | 168 x 117 | 337 | 312 | 107 |

Application : Same as reducing 'Y' with option of door for cleaning purpose.

INVERT 'Y' 45°

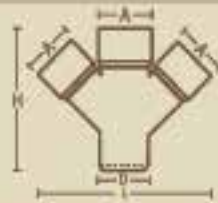


| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|----|-----|-----|
| 75 | M142002507 | 3.2 | 82 | 226 | 175 |

Application : Required to connect two branches an angle of 45° with invert socket.

ASTRAL ULTRADRAIN® PASTING TYPE FITTINGS

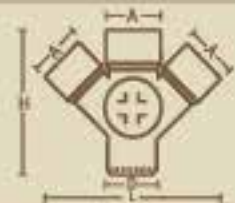
DOUBLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142002307 | 3.2 | 82 | 220 | 268 |
| 110 | M142002309 | 3.2 | 117 | 300 | 390 |

Application : Required to connect 2 branch soil/waste pipeline to the main vertical line at an angle of 45°.

DOUBLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142002407 | 3.2 | 82 | 220 | 268 | 79 |
| 110 | M142002409 | 3.2 | 117 | 300 | 390 | 107 |

Application : Same as Double 'Y' with option of door for cleaning purpose.

BEND 87.5°



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142001207 | 3.2 | 82 | 142 | 140 |
| 90 | M142001208 | 3.2 | 97 | 171 | 174 |
| 110 | M142001209 | 3.2 | 117 | 195 | 188 |
| 160 | M142001212 | 4.0 | 168 | 270 | 271 |

Application : Required to connect internal pipeline to main pipeline & also for direction change at an angle of 87.5°.

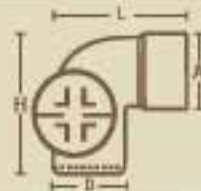
BEND 87.5° WITH DOOR (TS)



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142001307 | 3.2 | 82 | 142 | 168 | 79 |
| 90 | M142001308 | 3.2 | 97 | 171 | 194 | 92 |
| 110 | M142001309 | 3.2 | 117 | 195 | 217 | 107 |
| 160 | M142001312 | 4.0 | 168 | 270 | 282 | 107 |

Application : Same as Bend with option of door for cleaning purpose.

BEND 87.5° L-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142001407 | 3.2 | 82 | 137 | 139 | 79 |
| 110 | M142001409 | 3.2 | 117 | 192 | 195 | 107 |

Application : Same as Bend with option of L-H door for cleaning purpose.

BEND 87.5° R-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142001507 | 3.2 | 82 | 137 | 139 | 79 |
| 110 | M142001509 | 3.2 | 117 | 192 | 195 | 107 |

Application : Same as Bend with option of R-H door for cleaning purpose.

45° BEND



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M142001107 | 3.2 | 82 | 157 | 123 |
| 90 | M142001108 | 3.2 | 97 | 192 | 143 |
| 110 | M142001109 | 3.2 | 117 | 212 | 168 |
| 160 | M142001112 | 4.0 | 168 | 265 | 228 |

Application : Required as a shoe for drainage line & also for direction change at an angle of 45°.

REDUCER

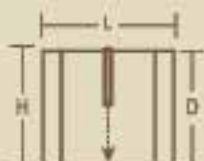


| SIZE (D ₁ x D ₂) | PART NO. | WT. | A | H-1 | L | C |
|---|------------|-----|-----|-----|-----|-----|
| 90 x 75 | M142001930 | 3.2 | 82 | 45 | 137 | 93 |
| 110 x 75 | M142001929 | 3.2 | 82 | 61 | 153 | 92 |
| 110 x 90 | M142001943 | 3.2 | 95 | 58 | 163 | 105 |
| 160 x 75 | M142001935 | 4.0 | 90 | 82 | 180 | 90 |
| 160 x 110 | M142001931 | 4.0 | 118 | 73 | 190 | 117 |

Application : Required to reduce 110mm dia. pipe to 75 mm dia. pipe.

ASTRAL ULTRADRAIN® PASTING TYPE FITTINGS

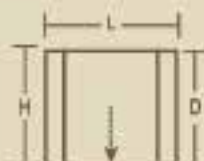
COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M142001607 | 3.2 | 82 | 113 |
| 90 | M142001608 | 3.2 | 97 | 119 |
| 110 | M142001609 | 3.2 | 117 | 137 |
| 160 | M142001612 | 4.0 | 168 | 165 |

Application : Required to connect two length of pipe.

REPAIR COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M142001707 | 3.2 | 82 | 113 |
| 110 | M142001709 | 3.2 | 117 | 137 |

Application : Required to repairing of pipe, having small cracks / holes / dents.

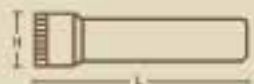
W.C. CONNECTOR (RED)



| SIZE (D) | PART NO. | WT. | A | C | L |
|-----------|------------|-----|-----|-----|-----|
| 125 x 110 | M112003834 | 3.2 | 125 | 110 | 103 |

Application : 125 x 110 Reducer with W.C. ring can be joined to required length of pipe to take the line out.

W.C. CONNECTOR (STRAIGHT)



| SIZE (D) | PART NO. | L | H |
|----------|------------|-----|-----|
| 110 | F172006009 | 450 | 122 |

Application : To connect W.C. pans to soil pipe.

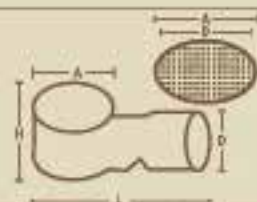
W.C. CONNECTOR (BEND)



| SIZE (D) | PART NO. | L | H |
|----------|------------|-----|-----|
| 110 | F172005909 | 192 | 197 |

Application : To provide appropriate adaption to W.C. pans.

NAHANI TRAP & JALI



| SIZE (D) | PART NO. | H | L | A |
|----------|------------|-----|-----|-----|
| 63 | M142003106 | 67 | 215 | 120 |
| 75 | M142003107 | 85 | 256 | 128 |
| 90 | M142003108 | 91 | 260 | 128 |
| 110 | M142003109 | 100 | 270 | 128 |

NAHANI TRAP (SINGLE PIECE)

| | | | | |
|-------------------|------------|----|-----|-----|
| 63 (with jali) | M142007006 | 67 | 215 | 120 |
| 63 (without jali) | M142007106 | 67 | 215 | 120 |

| JALI | PART NO. | SIZE (D) | WT. | A |
|------|------------|----------|-----|-----|
| | M142008509 | 110 | 3.4 | 119 |

Application : For draining waste from bathroom / wash basin out to the main line.

4", 5", 7" FLOOR TRAP



| SIZE | PART NO. | D | d | A | L | H |
|----------|------------|---------|----|-----|-----|-----|
| 4" | M142003208 | 75 | 50 | 117 | 206 | 100 |
| 5" | M142003209 | 90 x 75 | 50 | 117 | 195 | 142 |
| 7" | M142003210 | 75 | 40 | 117 | 208 | 178 |
| 4" (Red) | M142003236 | 75 x 63 | 50 | 117 | 206 | 100 |

Application : For multiple draining i.e. Bathroom/ Washbasin/ Washing machine / Bathtub etc. Provided with 3 additional inlets that can be opened as an when required.

PLAIN FLOOR TRAP



| SIZE | PART NO. | D | d | A | L | H |
|------|------------|----|----|-----|-----|-----|
| 4" | M142003208 | 75 | 63 | 117 | 155 | 101 |
| 5" | M142003209 | 75 | 63 | 117 | 155 | 140 |

MULTI FLOOR TRAP ADAPTOR (HEIGHT RISER)



| SIZE | PART NO. | WT. | A | D | d | L | H |
|-------------|------------|------|-----|----|----|-----|-----|
| 110 x 50/40 | M112003344 | 2.75 | 110 | 50 | 40 | 180 | 158 |

Application : Required to raise the height of floor traps.

ASTRAL ULTRADRAIN® FABRICATED FITTINGS

GULLY TRAP (SQUARE TYPE) WITH JALI



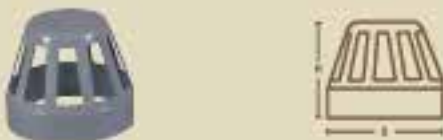
| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 110 | M142003409 | 3.2 | 139 | 239 | 290 |

ECCENTRIC REDUCING BUSH



| SIZE (D) | PART NO. | WT. | H | L |
|-----------|------------|-----|----|-----|
| 110 x 63 | M112003032 | 3.2 | 49 | 115 |
| 110 x 75 | M112003029 | 3.2 | 49 | 115 |
| 110 x 90 | M112003043 | 3.2 | 50 | 115 |
| 160 x 110 | M112003031 | 4.0 | 78 | 172 |

VENT COWL



| SIZE (D) | PART NO. | WT. | H |
|----------|------------|-----|----|
| # 50 | M112002705 | 3.2 | 56 |
| # 63 | M112002706 | 3.2 | 67 |
| 75 | M112002707 | 3.2 | 67 |
| # 90 | M112002708 | 3.2 | 80 |
| 110 | M112002709 | 3.2 | 90 |

Application : Used as a cap on the top of the vertical line. Also helps in release of foul gases.

RUBBER SEAL RING



| SIZE (D) | A | B | L |
|----------|-----|-----|----|
| 75 | 85 | 71 | 9 |
| 90 | 100 | 84 | 9 |
| 110 | 122 | 106 | 10 |
| 160 | 175 | 152 | 13 |

SOCKET PLUG



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|----|-----|
| 75 | M112002907 | 3.2 | 48 | 95 |
| 110 | M112002909 | 3.2 | 60 | 130 |

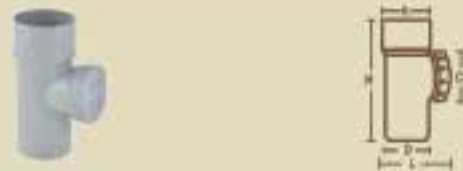
Application : Used as a blind plug to terminate the pipeline.

STRAIGHT REDUCING BUSH



| SIZE (D) | PART NO. | WT. | H | L |
|-----------|------------|-----|----|-----|
| 110 x 75 | M112007535 | 4.0 | 83 | 170 |
| 160 x 110 | M112007531 | 4.0 | 83 | 170 |

CLEANSING PIPE



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M142002607 | 3.2 | 82 | 190 | 112 | 79 |
| 110 | M142002609 | 3.2 | 117 | 263 | 157 | 107 |
| 160 | M142002612 | 4 | 168 | 350 | 200 | 107 |

Application : Used in between a vertical line to facilitate cleaning.

PIPE CLIP



| SIZE (D) | WT. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 40 | M112002804 | 3.2 | 75 | 76 |
| 50 | M112002805 | 3.2 | 84 | 86 |
| 63 | M112002806 | 3.2 | 98 | 103 |
| 75 | M112002807 | 3.2 | 110 | 112 |
| 90 | M112002808 | 3.2 | 122 | 140 |
| 110 | M112002809 | 3.2 | 143 | 140 |
| 160 | M112002812 | 4.0 | 210 | 180 |

Application : To fix / secure the pipeline to the wall or flat surface.

Shortly Introducing

SOLVENT WELD JOINING METHOD

1. CUT PIPE :

Cut pipe square. As joints are sealed at the base of the fitting socket. An angled cut may result in joint failure.



2. REMOVE BURR AND BEVEL :

Remove all burr from inside and outside of pipe with a knife-edge file, or deburring tool. Chamfer (bevel) the end of the pipe 10°-15°



CLEAN :

Remove surface dirt, grease, or moisture with a clean dry cloth.

3. DRY FIT :

With light pressure, pipe should go one third to one half of the way into the fitting socket. Pipes and fittings that are too tight or too loose should not be used.



4. CEMENT :

Apply a full even layer of cement to the outside of a pipe and medium layer of cement to the inside of a fitting.



5. JOIN PIPE AND FITTINGS :

Assemble pipe and fitting socket till it contacts socket bottom. Hold pipe and fitting together until the pipe does not back out. Remove excessive cement from the exterior. A perfect made joint will show a continuous bead of cement around the perimeter.





SUPERIOR PUSH-FIT SYSTEM FOR LEAK PROOF JOINTS

PROFILE

Astral DrainMaster™ is a uPVC conventional drainage system for soil, waste and rain water. This system enables fast and efficient removal of waste without blockage and leakage. Its high impact strength, chemical and corrosion resistance, Long life and virtually zero maintenance have made Astral DrainMaster™ system a preferred drainage and rain water system among architects, builders and plumbing contractors.

The state of the art equipments and virgin raw material used to produced Astral DrainMaster™ SWR system. The system is available from 75mm to 160mm, the entire range is Manufactured as per internationally accepted quality standards and specifications.

APPLICATIONS

Astral DrainMaster™ drainage system can be applicable at houses, offices, hotels, commercial complex, industries, hospitals as well as at airports, railway stations, stadiums, theaters etc. for waste discharge, ventilation and rain water management.

ADVANTAGES

Specially designed Astral DrainMaster™ drainage system offers numerous advantages over conventional drainage systems. A large numbers of dealers, distributors and field staff are always on to for uninterrupted supply of products to the end users.

AVAILABLE SIZE

75 mm, 110 mm & 160 mm



INTRODUCTION

PRESENTING ASTRAL DRAINMASTER™ PUSHFIT SYSTEM

In this unique system, pipe and fittings are joined together by simple pushing the spigot into socket end. The spigot end is held firmly and tightly in the socket by reinforced pre-fitted yellow rubber ring provided in the groove. Thus it ensures leak-proof joints which can withstand high pressure and it also prevent choking. The system thus does not require to thread or to paste. The yellow co-molded rubber ring enables the joints to withstand high pressure and also compensates for the thermal expansion and 75mm, 110mm & 160mm contraction. Since the joints are not fixed by the usage of solvent cements, it can be reopened later for the purpose of realignment or adjustment of pipes / fittings.

Astral DrainMaster™ pipes and fittings are manufactured from virgin raw material and they are tested for correct thickness and dimensional accuracy, randomly and batch wise in our most modern quality assurance laboratory.



KEY PROPERTIES AND BENEFITS



STRONGER, RESILIENT & LIGHT WEIGHT

Astral DrainMaster™ system is highly resilient and tough with good mechanical strength and high impact resistance. At the same time this system is very light in weight which gives highest benefit to the end user in terms of transportation, installation and long service life.



CORROSION RESISTANCE

The inert nature of Astral DrainMaster™ uPVC drainage system provide complete corrosion resistance and renders wrapping, coating and lining unnecessary. It also ensures that uPVC sewer and drainage pipes have long operational life compared to conventional asbestos or cast iron systems.



NON CONDUCTIVE

Astral DrainMaster™ uPVC drainage system is a non-conductor of electricity, and is therefore not subject to galvanic or electrolytic action.



CHEMICAL RESISTANCE

Astral DrainMaster™ uPVC drainage system is inert to most of the acids, alkalis, effluents, salts, minerals and aggressive soils. The system remains unaffected by transportation of such type of media and gives longer life with trouble free service.



FLAMMABILITY

Astral DrainMaster™ uPVC drainage system does not support combustion and is inherently difficult to ignite. It also stops burning once the source of heat is removed.



UV STABILIZED

Astral DrainMaster™ uPVC drainage system is UV stabilized which gives protection to the system while being operational in direct sun light.



HIGH FLOW RATES

Extremely smooth bores, precision joints and lack of internal projections ensure unrivaled hydraulic capacity over the total life of the system.



QUICK & EASY INSTALLATIONS

Astral DrainMaster™ pipes and fittings can be joined together with rubber ring or solvent weld system. These techniques are very simple and ensure 100% leak proof system at a reduced installation time with lower maintenance.



VERSATILE AND ELEGANT

The physical properties of PVC allow designers a high degree of freedom while designing with Superb finished pipes and fittings.



ECONOMICAL

Astral DrainMaster™ uPVC drainage system is more cost effective than any other conventional drainage systems available in market.



ENVIRONMENTAL IMPACT

uPVC has a lower feedstock energy especially compared to other polymers and common building materials. It is the least energy intensive of all thermoplastics. In life cycle analysis and independent studies, PVC's environmental impact has been found most favorable, so the more usage of PVC will greatly help to keep our global natural resources intake for longer period of time. It does not pollute air, water or land during manufacturing or service life and can be recycled after prolonged service life.

ASTRAL DRAINMASTER™ PIPES & FITTINGS



DRAINMASTER PIPES : ASTRAL DRAINMASTER™ ISI marked pipes are available in ringfit pipe with two different class of pipes named as "TYPE A" & "TYPE B". TYPE A pipes are recommended for use in ventilation and rain water applications while TYPE B pipes are recommended for soil and waste discharge applications. Pipes are available in all sizes and in different lengths with single socket and double socket.



ASTRAL DRAINMASTER™ Ringfit pipes are socketed on automatic online socketing machine with very high degree of accuracy. The socket has groove inside for yellow co-molded rubber ring. The yellow rubber ring ensures trouble free water tight joint with allowance to thermal expansion /contraction. One end of the pipe is plain and the other is self socketed with an integral groove to hold the rubber gasket. When joined with a yellow rubber ring, the joint formed is a trouble free, water tight one, ready to take care of thermal expansion / contraction. Sizes : 75 mm, 90 mm, 110 mm, 160 mm

| NOMINAL DIAMETER | MEAN OUTSIDE DIAMETER | | TYPE A WALL THICKNESS | | TYPE B WALL THICKNESS | |
|------------------|-----------------------|-------|-----------------------|------|-----------------------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. |
| 75 | 75.0 | 75.3 | 1.8 | 2.2 | 3.2 | 3.8 |
| 90 | 90.0 | 90.3 | 1.9 | 2.3 | 3.2 | 3.8 |
| 110 | 110.0 | 110.4 | 2.2 | 2.7 | 3.2 | 3.8 |
| 160 | 160.0 | 160.5 | 3.2 | 3.8 | 4.0 | 4.6 |

All dimensions are in mm.



DRAINMASTER FITTINGS : ASTRAL DRAINMASTER™ ISI marked fittings are available in grooved ring type in full range starting from 75 mm to 160 mm and are fully compatible with ASTRAL DRAINMASTER™ Pipes.



ASTRAL DRAINMASTER™ Grooved ring type fittings are self socketed with groove to hold the yellow co-molded rubber ring. The grooves are made on highly accurate online socketing machines that give highest quality, performance and satisfaction.

TESTING REQUIREMENTS

ASTRAL DRAINMASTER™ uPVC pipes & fittings are manufactured subject to strict and continuous control over raw materials, production, dimensions & identification. The rigorous testing and quality control throughout the entire process ensures that ASTRAL DRAINMASTER™ System is highly reliable and efficient in working.

PIPES ARE SUBJECT TO TESTS LIKE.

- Tensile Strength
- Reversion
- Vicat softening temp. test
- Water tightness of joint
- Impact Strength
- Stress relief test
- Exposure to Sunlight
- Resistance to H₂SO₄

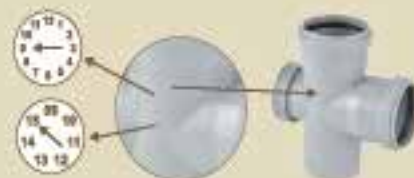
FITTING ARE SUBJECT TO TESTS LIKE.

- Impact Strength
- Vicat Softening temp. test
- Resistance to H₂SO₄
- Stress relief test
- Water tightness of joint
- Sulphated Ash content

The acceptance criteria for test results obtained are as per widely accepted International and National Standards.

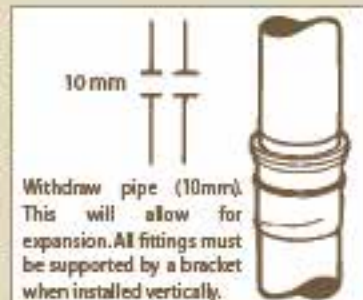
UNIQUE IDENTIFICATION :

Each fitting is having unique identification known as "Clock". This system ensures 100% traceability to every production lot.



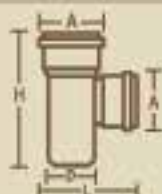
THERMAL EXPANSION AND CONTRACTION :

ASTRAL DRAINMASTER™ piping system will undergo thermal expansion and contraction like any other thermoplastic materials. The thermal expansion & contraction depends on the coefficient of thermal expansion (5.4×10^{-5} mm / mm /°C for PVC), length of piping and temperature difference encountered by the piping. Normally for drainage & sewerage system temperature difference of atmosphere will effect more to thermal movements of piping rather than effluent temperatures as full bore discharges are normally not happened for prolong time and also these discharges are periodic in nature. Still expansion & contraction issue needs to be addressed. For ringfit joining systems specially designed yellow co-molded rubber rings and proper joining of pipes and fittings will take care of length change. Please refer joining method section of this catalogue for more details.



ASTRAL DRAINMASTER™ FITTINGS

SINGLE TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342000107 | 3.2 | 90 | 186 | 135 |
| 90 | M342000108 | 3.2 | 105 | 233 | 170 |
| 110 | M342000109 | 3.2 | 127 | 258 | 193 |
| 160 | M342000112 | 4.0 | 182 | 362 | 270 |

Application : Required to connect branch soil / waste line to main line at an angle of 87.5°.

REDUCING TEE



| SIZE (Dxd) | PART NO. | WT. | A | H | L |
|------------|------------|-----|-----------|-----|-----|
| # 90 x 75 | M342000330 | 3.2 | 105 x 90 | 232 | 152 |
| 110 x 75 | M342000329 | 3.2 | 127 x 90 | 260 | 175 |
| 160 x 75 | M342000335 | 4.0 | 182 x 90 | 343 | 229 |
| 160 x 110 | M342000331 | 4.0 | 182 x 127 | 343 | 235 |

Application : Required to connect branch line at 87.5° / 92.5°

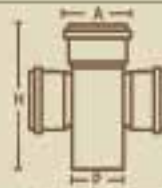
SINGLE TEE L-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342000507 | 3.2 | 90 | 186 | 137 | 79 |
| 110 | M342000509 | 3.2 | 127 | 258 | 185 | 107 |

Application : Same as plain Tee with option of L-H door for cleaning purpose.

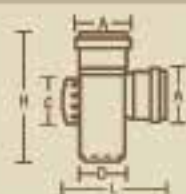
CROSS TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342000707 | 3.2 | 90 | 187 | 185 |
| 110 | M342000709 | 3.2 | 127 | 257 | 255 |

Application : Required to connect two adjacent branch line at an angle of 87.5°/92.5°

SINGLE TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342000207 | 3.2 | 90 | 186 | 176 | 79 |
| 90 | M342000208 | 3.2 | 105 | 233 | 193 | 92 |
| 110 | M342000209 | 3.2 | 127 | 258 | 224 | 107 |
| 160 | M342000212 | 4.0 | 182 | 362 | 298 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

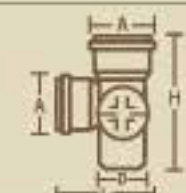
REDUCING TEE WITH DOOR



| SIZE (Dxd) | PART NO. | WT. | A | H | L | C |
|------------|------------|-----|-----------|-----|-----|-----|
| # 90 x 75 | M342000430 | 3.2 | 105 x 90 | 232 | 173 | 79 |
| 110 x 75 | M342000429 | 3.2 | 127 x 90 | 260 | 207 | 107 |
| 160 x 75 | M342000435 | 4.0 | 182 x 90 | 343 | 266 | 107 |
| 160 x 110 | M342000431 | 4.0 | 182 x 127 | 343 | 277 | 107 |

Application : Same as Reducing Tee with option of door for cleaning purpose.

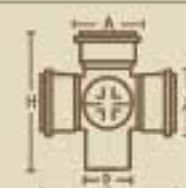
SINGLE TEE R-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342000607 | 3.2 | 90 | 186 | 137 | 79 |
| 110 | M342000609 | 3.2 | 127 | 258 | 185 | 107 |

Application : Same as plain Tee with option of R-H door for cleaning purpose.

CROSS TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342000807 | 3.2 | 90 | 187 | 185 | 79 |
| 110 | M342000809 | 3.2 | 127 | 257 | 255 | 107 |

Application : Same as cross Tee with option of door for cleaning purpose.

ASTRAL DRAINMASTER™ FITTINGS

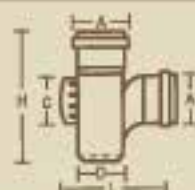
SWEPT TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342000907 | 3.2 | 90 | 204 | 155 |
| 110 | M342000909 | 3.2 | 127 | 265 | 205 |

Application : Same as plain Tee.

SWEPT TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342001007 | 3.2 | 90 | 204 | 175 | 79 |
| 110 | M342001009 | 3.2 | 127 | 265 | 230 | 107 |

Application: Same as plain Tee with option of door for cleaning purpose.

SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342001907 | 3.2 | 90 | 217 | 180 |
| 90 | M342001908 | 3.2 | 105 | 258 | 207 |
| 110 | M342001909 | 3.2 | 127 | 294 | 266 |
| 160 | M342001912 | 4.0 | 182 | 412 | 347 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45°.

SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342002007 | 3.2 | 90 | 217 | 200 | 79 |
| 90 | M342002008 | 3.2 | 105 | 258 | 223 | 92 |
| 110 | M342002009 | 3.2 | 127 | 294 | 273 | 107 |
| 160 | M342002012 | 4.0 | 182 | 412 | 370 | 107 |

Application : Same as plain 'Y' with option of door for cleaning purpose.

REDUCING SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|-----------|------------|-----|-----------|-----|-----|
| 110 x 75 | M342002129 | 3.2 | 127 x 90 | 250 | 215 |
| 160 x 75 | M342002135 | 3.2 | 182 x 90 | 282 | 284 |
| 160 x 110 | M342002131 | 3.2 | 182 x 127 | 332 | 310 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45° with reduction of size.

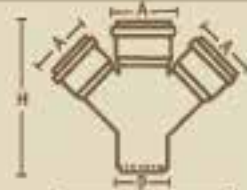
REDUCING SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|-----------|------------|-----|-----------|-----|-----|-----|
| 110 x 75 | M342002229 | 3.2 | 127 x 90 | 250 | 242 | 107 |
| 160 x 75 | M342002235 | 3.2 | 182 x 90 | 282 | 284 | 304 |
| 160 x 110 | M342002231 | 3.2 | 182 x 127 | 332 | 310 | 330 |

Application : Same as reducing 'Y' with option of door for cleaning purpose.

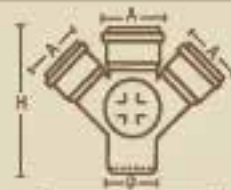
DOUBLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342002307 | 3.2 | 90 | 215 | 261 |
| 110 | M342002309 | 3.2 | 127 | 295 | 375 |

Application : Required to connect 2 branch soil/waste pipeline to the main vertical line at an angle of 45°.

DOUBLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342002407 | 3.2 | 90 | 215 | 261 | 79 |
| 110 | M342002409 | 3.2 | 127 | 295 | 375 | 107 |

Application : Same as Double 'Y' with option of door for cleaning purpose.

ASTRAL DRAINMASTER™ FITTINGS

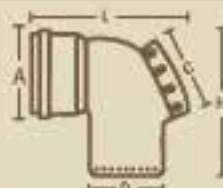
BEND 87.5°



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342001207 | 3.2 | 90 | 146 | 134 |
| 90 | M342001208 | 3.2 | 105 | 174 | 173 |
| 110 | M342001209 | 3.2 | 127 | 198 | 175 |
| 160 | M342001212 | 4.0 | 182 | 276 | 267 |

Application : Required to connect internal pipeline to main pipeline & also for direction change at an angle of 87.5°.

BEND 87.5° WITH DOOR (TS)



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342001307 | 3.2 | 90 | 146 | 155 | 79 |
| 90 | M342001308 | 3.2 | 105 | 147 | 191 | 92 |
| 110 | M342001309 | 3.2 | 127 | 198 | 210 | 107 |
| 160 | M342001312 | 4.0 | 182 | 276 | 280 | 107 |

Application : Same as Bend with option of door for cleaning purpose.

BEND 87.5° L-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342001407 | 3.2 | 90 | 143 | 135 | 79 |
| 110 | M342001409 | 3.2 | 127 | 196 | 185 | 107 |

Application : Same as Bend with option of L-H door for cleaning purpose.

BEND 87.5° R-H WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342001507 | 3.2 | 90 | 143 | 135 | 79 |
| 110 | M342001509 | 3.2 | 127 | 196 | 185 | 107 |

Application : Same as Bend with option of R-H door for cleaning purpose.

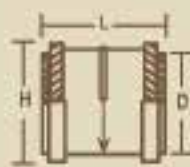
45° BEND



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M342001107 | 3.2 | 90 | 153 | 120 |
| 90 | M342001108 | 3.2 | 105 | 189 | 140 |
| 110 | M342001109 | 3.2 | 127 | 207 | 168 |
| 160 | M342001112 | 4.0 | 182 | 260 | 233 |

Application : Required as a shoe for drainage line & also for direction change at an angle of 45°.

COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M342001607 | 3.2 | 90 | 105 |
| 90 | M342001608 | 3.2 | 105 | 116 |
| 110 | M342001609 | 3.2 | 127 | 130 |
| 160 | M342001612 | 4.0 | 180 | 158 |

Application : Required to connect two length of pipe.

INVERT 'Y' 45°



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|----|-----|-----|
| 75 | M342002507 | 3.2 | 90 | 221 | 180 |

Application : Required to connect two branches an angle of 45° with invert socket.

CLEANSING PIPE

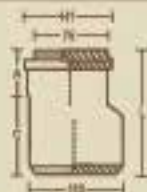


| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M342002607 | 3.2 | 90 | 187 | 118 | 79 |
| 110 | M342002609 | 3.2 | 127 | 258 | 143 | 107 |
| 160 | M342002612 | 4.0 | 182 | 345 | 207 | 107 |

Application : Used in between a vertical line to facilitate cleaning.

ASTRAL DRAINMASTER™ FITTINGS

REDUCER



| SIZE (Dxd) | PART NO. | WT. | A | H-1 | L | C |
|------------|------------|-----|----|-----|-----|-----|
| 90 x 75 | M342001830 | 3.2 | 45 | 91 | 137 | 93 |
| 110 x 75 | M342001829 | 3.2 | 58 | 90 | 151 | 92 |
| 110 x 90 | M342001843 | 3.2 | 55 | 105 | 161 | 105 |
| 160 x 75 | M342001831 | 4.0 | 68 | 127 | 186 | 117 |

Application : Required to reduce 110mm dia. pipe to 75 mm dia. pipe.

VENT COWL



| SIZE (D) | PART NO. | WT. | H |
|----------|------------|-----|----|
| 50 | M112002705 | 3.2 | 56 |
| 63 | M112002706 | 3.2 | 67 |
| 75 | M112002707 | 3.2 | 67 |
| 90 | M112002708 | 3.2 | 80 |
| 110 | M112002709 | 3.2 | 90 |

Application : Used as a cap on the top of the vertical line. Also helps in release of foul gases.

4", 5", 7" FLOORTRAP



| SIZE | PART NO. | D | d | A | L | H |
|-----------|------------|---------|----|-----|-----|-----|
| 4" | M142003208 | 75 | 50 | 117 | 206 | 100 |
| 5" | M142003209 | 90 x 75 | 50 | 117 | 195 | 142 |
| 7" | M142003210 | 75 | 40 | 117 | 208 | 178 |
| 4" (Pack) | M142003236 | 75 x 63 | 50 | 117 | 206 | 100 |

Application : For multiple draining i.e. Bathroom/ Washbasin/ Washing machine / Bathtub etc. Provided with 3 additional inlets that can be opened as an when required.

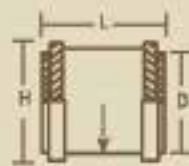
PLAIN FLOOR TRAP



| SIZE | PART NO. | D | d | A | L | H |
|------|------------|----|----|-----|-----|-----|
| 4" | M142003208 | 75 | 63 | 117 | 155 | 101 |
| 5" | M142003209 | 75 | 63 | 117 | 155 | 140 |

Application : xxxxxxxxxxxxxxxxxxxxxxxxxxx

REPAIR COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M342001707 | 3.2 | 90 | 105 |
| 110 | M342001709 | 3.2 | 127 | 130 |

Application : Required to repairing of pipe, having small cracks / holes / dents.

PIPE CLIP



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 40 | M112002804 | 3.2 | 75 | 76 |
| 50 | M112002805 | 3.2 | 84 | 86 |
| 63 | M112002806 | 3.2 | 98 | 103 |
| 75 | M112002807 | 3.2 | 110 | 112 |
| 90 | M112002808 | 3.2 | 122 | 140 |
| 110 | M112002809 | 3.2 | 143 | 140 |
| 160 | M112002812 | 4.0 | 210 | 180 |

Application : To fix / secure the pipeline to the wall or flat surface.

GULLY TRAP



| SIZE (D) | PART NO. | A | d1 x 3 | d2 x 3 | H |
|-----------|------------|-----|--------|--------|-----|
| 160 x 110 | M192014131 | 132 | 100 | 50 | 300 |

Application : used to remove surface water from paved pedestrian areas. Side and back boss inlets accept waste water from ground floor domestic applications and / or rainwater from roofs. Accepts waste or rainwater pipework from 32 mm up to 110 mm sizes

GULLY TRAP (SQUARE TYPE) WITH JALI



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 110 | M142003409 | 3.2 | 139 | 239 | 290 |

ASTRAL DRAINMASTER™ FITTINGS

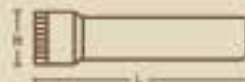
SOCKET PLUG



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|----|-----|
| 75 | M112002907 | 3.2 | 48 | 95 |
| 110 | M112002909 | 3.2 | 60 | 130 |

Application : Used as a blind plug to terminate the pipeline.

W.C. CONNECTOR (STRAIGHT)



| SIZE (D) | PART NO. | L | H |
|----------|------------|-----|-----|
| 110 | F172006009 | 450 | 122 |

Application : To connect W.C. pans to soil pipe.

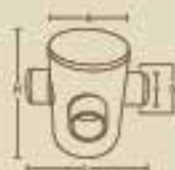
W.C. CONNECTOR (BEND)



| SIZE (D) | PART NO. | L | H |
|----------|------------|-----|-----|
| 110 | F172005909 | 192 | 197 |

Application : To provide appropriate adaption to W.C. pans.

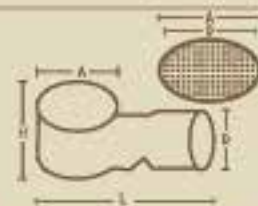
MULTI FLOOR TRAP ADAPTOR (HEIGHT RISER)



| SIZE | PART NO. | WT. | A | D | d | L | H |
|-------------|------------|------|-----|----|----|-----|-----|
| 110 x 50/40 | M112003344 | 2.75 | 110 | 50 | 40 | 180 | 158 |

Application : Required to raise the height of floor traps.

NAHANI TRAP & JALI



| SIZE (D) | PART NO. | H | L | A |
|----------|------------|-----|-----|-----|
| 63 | M142003106 | 67 | 215 | 120 |
| 75 | M142003107 | 85 | 256 | 128 |
| 90 | M142003108 | 91 | 260 | 128 |
| 110 | M142003109 | 100 | 270 | 128 |

NAHANI TRAP (SINGLE PIECE)

| | | | | |
|-----------------|------------|----|-----|-----|
| 63 with Jali | M142007006 | 67 | 215 | 120 |
| 63 without Jali | M142007106 | 67 | 215 | 120 |

| JALI | PART NO. | SIZE (D) | WT. | A |
|------|------------|----------|-----|-----|
| | M142008509 | 110 | 3.4 | 119 |

Application : For draining waste from bathroom / wash basin out to the main line.

W.C. CONNECTOR (RED)



| SIZE (D) | PART NO. | WT. | A | C | L |
|-----------|------------|-----|-----|-----|-----|
| 125 x 110 | M112003834 | 3.2 | 125 | 110 | 103 |

Application : 125 x 110 Reducer with W.C. ring can be joined to required length of pipe to take the line out.

ECCENTRIC REDUCING BUSH



| SIZE (D) | PART NO. | WT. | H | L |
|-----------|------------|-----|----|-----|
| 110 x 63 | M112003032 | 3.2 | 49 | 115 |
| 110 x 75 | M112003029 | 3.2 | 49 | 115 |
| 110 x 90 | M112003043 | 3.2 | 50 | 115 |
| 160 x 110 | M112003031 | 4.0 | 78 | 172 |

ASTRAL DRAINMASTER™ INSTALLATION

- 1. CUT PIPE :** Cut pipe square. As joints are sealed at the base of the fitting socket. An angled cut may result in joint failure.



- 2. REMOVE BURR AND BEVEL :** Remove all burr from inside and outside of pipe with a knife-edge file, or deburring tool. Chamfer (bevel) the end of the pipe 10°-15°.



CLEAN : Remove surface dirt, grease, or moisture with a clean dry cloth.

- 3. INSERT PIPE :** Insert the pipe in to the socket without the seal ring and mark along the pipe, when it is fully inserted.



- 4. FIX RUBBER RING :** Fix the rubber ring in the groove without twisting it.



- 5. APPLY LUBRICANT :** Apply jointing lubricant to the chamfered end of the pipe & on rubber ring up to the mark made on spigot or to the socket end of fitting.



- 6. JOIN PIPE AND FITTINGS :** Push the pipe firmly into the socket till the gap between the mark on the spigot and the socket is about 10 mm to allow thermal expansion.





UPVC DRAIN WASTE & VENT SYSTEM

uPVC CLICK RING TYPE DRAIN, WASTE & VENT SYSTEM

Astral® is pioneer in introducing new plumbing concepts and new products in Indian market keeping focus on environmental effects, quality and user friendliness of products.

Astral® always emphasize on conceptual selling of new products with best quality to make Indian plumbing well established with global plumbing concepts. With this concept and effort, Astral® is proud to introduce uPVC DRAIN, WASTE & VENT SYSTEM under the brand Name Astral DWV® for non pressure Drainage & Sewerage applications.

The systems comprises of uPVC foamcore pipes and uPVC click ring type fittings. Both the products are new and unique in nature when compared with traditional products available in market.

AVAILABLE SIZE

75 mm, 110 mm, 160 mm with stiffness class SN2, SN4 and SN8



KEY PROPERTIES AND BENEFITS



HIGH FLOW RATES

Extremely smooth bores, precision joints and lack of internal projections ensure unrivaled hydraulic capacity over the total life of the system. Flatter gradients can be possible using Astral DWV® uPVC drainage systems over conventional systems.



NON CONDUCTIVE

uPVC is a non conductor of electricity, and is therefore not subject to galvanic or electrolytic action.



CORROSION RESISTANCE

The inert nature of uPVC drainage system provide complete corrosion resistance and renders wrapping, coating and lining unnecessary. It also ensures that uPVC drain waste and vent pipes have long operational life compare to conventional asbestos or cast iron systems.



ENVIRONMENTAL IMPACT

PVC has a lower feedstock energy especially compared to other polymers and common building materials. It is the least energy intensive of all thermoplastics. In life cycle analyses and independent studies, PVC's environmental impact has been found most favorable, so the more usage of PVC will greatly help to keep our global natural resources intake for longer period of time. It is not polluting air, water or land during manufacturing or service life and can be recycled after prolonged service life.



FLAMMABILITY

uPVC does not support combustion and is inherently difficult to ignite. It also stops burning once the source of heat is removed



LONGER SERVICE LIFE

Astral DWV® system comprises of Foamcore pipes & click ring type fittings. Both the products are weather resistant, corrosion resistant, excellent in cushion effect and ideally suited for sewer & drain applications. These benefits makes Astral DWV® system most favorable in term of service life.



UV STABILIZED

Astral DWV® system is UV stabilized which gives protection to the system while being operational in direct sun light.



CHEMICAL RESISTANCE

The excellent chemical resistance of uPVC pipes to acids, alkalis, oxidising and reducing agents makes it particularly suitable for a wide range of drain applications. uPVC pipes are resistance to all of the chemicals expected to be encountered in drain & waste application.



COST SAVINGS

Astral DWV® piping system can greatly speed up the installation work as they are light in weight, easy to handle and convenient in fixing. The spacing of manholes can be increased due to greatly reduced incidence of blockages and increased flow rates possible with Astral DWV® System. Manholes are often the greatest single cost element and reduction in their number makes sound economic sense. All these benefits will lead to very high cost savings when compare to conventional piping system like asbestos or Cast Iron with respect to manpower, material and total time for completion of project work.

DWV FOAMCORE PIPES

Astral DWV® 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 while 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.



COLOUR & MARKING :

Astral DWV® pipes are manufactured in dark grey colour in a semi gloss finish which is opaque and flawless. All Astral DWV® pipes and fittings are marked with Brand Name / Batch No. / Lot No. which includes the month / year of manufacture.

STANDARDS :

Astral DWV® pipes and fittings are intended for use above and below ground including exposure to direct sunlight and are manufactured as per requirements given in most widely used European & International standards for drainage & sewerage applications. The pipes and fittings are intended for non pressure drain, waste & vent applications and have been independently assessed and recognized as quality products.

AVAILABILITY :

Astral DWV® foamcore pipes are available in 75mm, 110mm and 160mm sizes with different stiffness classes mainly categories as SN2, SN4 and SN8 pipes are recommended for below ground applications depending on the level at which these pipes have to be installed.

PRODUCT DIMENSIONS

| NOMINAL DIAMETER | MEAN OUTSIDE DIAMETER | | SN 2 WALL THICKNESS | | SN 4 WALL THICKNESS | | SN 8 WALL THICKNESS | |
|------------------|-----------------------|-------|---------------------|------|---------------------|------|---------------------|------|
| | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. |
| 75 | 75.0 | 75.3 | -- | -- | 1.8 | 2.3 | 2.2 | 2.7 |
| 110 | 110.0 | 110.4 | -- | -- | 2.7 | 3.2 | 3.2 | 3.7 |
| 160 | 160.0 | 160.5 | 3.2 | 3.7 | 4.0 | 4.6 | 4.7 | 5.4 |

All dimensions are in mm and are same for Ringfit and Selfit pipes. Only socket geometry is different.

DWV FOAMCORE PIPES ADVANTAGES

LIGHT WEIGHT & STRONG :

Astral DWV® Foamcore pipes are light in weight compared to solid wall pipes and give more strength compared to solid wall pipes due to their unique multilayer construction.

REDUCTION IN NOISE LEVEL :

Due to the middle layer of foamed PVC, Astral DWV® Foamcore pipes have very good insulating properties which act to reduce the noise generated by transportation of fluid inside the pipe. This will be very much beneficial in large buildings.

HIGH IMPACT STRENGTH :

Due to the middle layer of foamed PVC, Astral DWV®



Foamcore pipes can take very high impact compared to solid wall pipes & can reduce the problems of cracking & breaking of pipes while transportation, handling & installation.

HIGH TEMPERATURE RANGE :

Astral DWV® Foamcore pipes can be used for high temperatures compare to solid wall pipes as the foamed layer can withstand high temperatures.

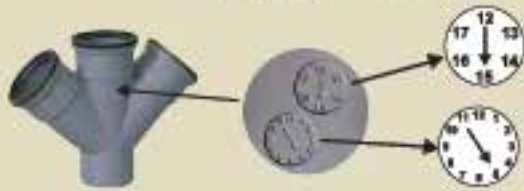
DWV CLICK RING FITTINGS :

ISI marked Click ring fittings are unique in nature having one rubber ring and one additional ring known as "Click ring" which is fitted over the specially designed socket geometry of Astral DWV® sewer & drain fittings. This "Click ring" ensures the locking of rubber ring within the groove of fittings. The rubber rings are also specially designed having unique geometry and PP cord inside which provides the proper locking to rubber ring and also stiff ness against the force of Click ring when fitted over the drain fittings.



UNIQUE IDENTIFICATION :

Each fitting is having unique identification known as "Clock". This system ensures 100% traceability to every production lot.



CLICK RING FITTINGS ADVANTAGES



LEAKAGE ELIMINATION :

Click ring type fitment assures 100% leak proof systems as the chances of manual mistakes associated with rubber ring fitment fittings will not be encountered. The click ring concept will give user guaranteed performance of system with no leakage.

CLICK FIT JOINING METHOD :

| | |
|--|---|
| | CUT PIPE : Cut pipe square. As joints are sealed at the base of the fitting socket. An angled cut may result in joint failure |
| | REMOVE BURR AND BEVEL : Remove all burr from inside and outside of pipe with a knife-edge, file, or deburring tool. Chamfer (bevel) the end of the pipe 10° -15° CLEAN : Remove surface dirt, grease, or moisture with a clean dry cloth |
| | MARK THE SPIGOT : Mark the spigot with a pencil or marker at a distance equal to the internal depth of the socket. Only use pencil or marker. Do not score or damage the surface for the pipe or fittings. |
| | APPLY LUBRICANT : Apply jointing lubricant to the chamfered end of the pipe & on rubber ring up to the mark made on spigot or to the socket end of fitting. |
| | JOIN PIPE AND FITTINGS : Push the pipe firmly into the socket till the gap between the mark on the spigot and the socket is about 10mm to allow thermal expansion. |

uPVC DRAIN WASTE & VENT SYSTEM

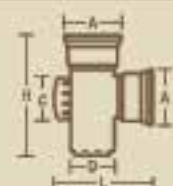
SINGLE TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152000107 | 3.2 | 98 | 192 | 137 |
| 110 | M152000109 | 3.2 | 132 | 265 | 195 |
| 160 | M152000112 | 4.0 | 191 | 338 | 265 |

Application : Required to connect branch soil / wasteline to main line at an angle of 87.5°.

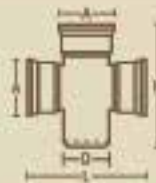
SINGLE TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152000207 | 3.2 | 98 | 192 | 137 | 79 |
| 110 | M152000209 | 3.2 | 132 | 265 | 195 | 107 |
| 160 | M152000212 | 4.0 | 191 | 338 | 265 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

CROSS TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152000707 | 3.2 | 98 | 192 | 200 |
| 110 | M152000709 | 3.2 | 132 | 265 | 271 |

Application : Required to connect two adjacent branch line at an angle of 87.5°/92.5°

CROSS TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152000807 | 3.2 | 98 | 192 | 200 | 79 |
| 110 | M152000809 | 3.2 | 132 | 265 | 271 | 107 |

Application : Same as Cross Tee with option of door for cleaning purpose.

SINGLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152001907 | 3.2 | 98 | 221 | 190 |
| 110 | M152001909 | 3.2 | 132 | 302 | 276 |
| 160 | M152001912 | 4.0 | 191 | 415 | 360 |

Application : Required to connect branch soil/waste pipeline to the main vertical line at an angle of 45°.

SINGLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152002007 | 3.2 | 98 | 221 | 211 | 79 |
| 110 | M152002009 | 3.2 | 132 | 302 | 283 | 107 |
| 160 | M152002012 | 4.0 | 191 | 415 | 383 | 107 |

Application : Same as plain 'Y' with option of door for cleaning purpose.

DOUBLE 'Y'



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152002307 | 3.2 | 98 | 221 | 281 |
| 110 | M152002309 | 3.2 | 132 | 302 | 393 |

Application : Required to connect 2 branch soil/waste pipeline to the main vertical line at an angle of 45°.

DOUBLE 'Y' WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152002407 | 3.2 | 98 | 221 | 281 | 79 |
| 110 | M152002409 | 3.2 | 132 | 302 | 393 | 107 |

Application : Same as Double 'Y' with option of door for cleaning purpose.

uPVC DRAIN WASTE & VENT SYSTEM

87.5° BEND



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152001207 | 3.2 | 98 | 150 | 145 |
| 110 | M152001209 | 3.2 | 132 | 200 | 192 |
| 160 | M152001212 | 4.0 | 191 | 278 | 253 |

Application : Required to connect internal pipeline to main pipeline & also for direction change at an angle of 87.5°.

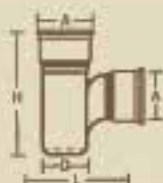
87.5° BEND WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152001307 | 3.2 | 98 | 150 | 165 | 79 |
| 110 | M152001309 | 3.2 | 132 | 200 | 224 | 107 |
| 160 | M152001312 | 4.0 | 191 | 278 | 266 | 107 |

Application : Same as Bend with option of door for cleaning purpose.

SWEPT TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152000907 | 3.2 | 98 | 208 | 160 |
| 110 | M152000909 | 3.2 | 132 | 273 | 212 |

Application : Same as plain Tee.

SWEPT TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152001007 | 3.2 | 98 | 208 | 160 | 79 |
| 110 | M152001009 | 3.2 | 132 | 273 | 296 | 107 |

Application : Same as plain Tee with option of door for cleaning purpose.

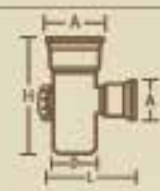
REDUCER TEE



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|----------|-----|-----|
| 110 x 75 | M152000329 | 3.2 | 132 x 97 | 267 | 190 |

Application : Required to connect & reduce branch line at 87.5° / 92.5°

REDUCER TEE WITH DOOR



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|----------|-----|-----|-----|
| 110 x 75 | M152000429 | 3.2 | 132 x 97 | 267 | 207 | 107 |

Application : Required to connect & reduce branch line at 87.5° / 92.5°

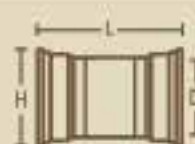
45° BEND



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 75 | M152001107 | 3.2 | 98 | 160 | 130 |
| 110 | M152001109 | 3.2 | 132 | 220 | 178 |
| 160 | M152001112 | 4.0 | 191 | 272 | 242 |

Application : Required as a shoe for drainage line & also for direction change at an angle of 45°.

COUPLER



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 75 | M152001607 | 3.2 | 98 | 117 |
| 110 | M152001609 | 3.2 | 132 | 142 |
| 160 | M152001612 | 4.0 | 191 | 186 |

Application : Required to connect two length of pipe.

uPVC DRAIN WASTE & VENT SYSTEM

W.C. CONNECTOR (STRAIGHT)



| SIZE (D) | PART NO. | L | H |
|----------|------------|-----|-----|
| 110 | F172006009 | 450 | 122 |

Application : To connect W.C. pans to soil pipe.

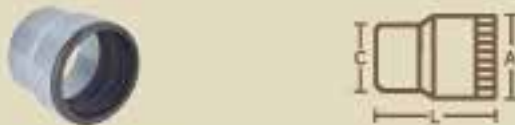
W.C. CONNECTOR (BEND)



| SIZE (D1) | PART NO. | L | H |
|-----------|------------|-----|-----|
| 110 | F172005909 | 192 | 197 |

Application : To provide appropriate adaption to W.C. Pans.

W.C. CONNECTOR (STRAIGHT) (Reducer Type)



| SIZE (D) | PART NO. | WT. | A | C | L |
|-----------|------------|-----|-----|-----|-----|
| 125 x 110 | M112003834 | 3.2 | 125 | 110 | 103 |

Application : 125 x 110 Reducer with W.C. ring can be joint to required length of pipe to take the line out.

REDUCER



| SIZE (Dxd) | PART NO. | WT. | A | H1 | L | C |
|------------|------------|-----|----|-----|-----|-----|
| 110 x 75 | M152001829 | 3.2 | 63 | 98 | 155 | 92 |
| 160 x 110 | M152001831 | 4.0 | 75 | 132 | 192 | 117 |

Application : Required to reduce 110mm dia. pipe to 75 mm dia. pipe.

4"5"7" FLOOR TRAP



| SIZE | PART NO. | D | d | A | L | H |
|----------|------------|---------|----|-----|-----|-----|
| 4" | M142003208 | 75 | 50 | 117 | 206 | 100 |
| 5" | M142003209 | 90 x 75 | 50 | 117 | 195 | 142 |
| 7" | M142003210 | 75 | 40 | 117 | 208 | 178 |
| 4" (red) | M142003236 | 75 x 63 | 50 | 117 | 206 | 100 |

Application : For multiple draining i.e. Bathroom/ Washbasin/ Washing machine / Bathtub etc. Provided with 3 additional inlets that can be opened as an when required.

PLAIN FLOOR TRAP



| SIZE | PART NO. | D | d | A | L | H |
|------|------------|----|----|-----|-----|-----|
| 4" | M142003208 | 75 | 63 | 117 | 155 | 101 |
| 5" | M142003209 | 75 | 63 | 117 | 155 | 140 |

Application : xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

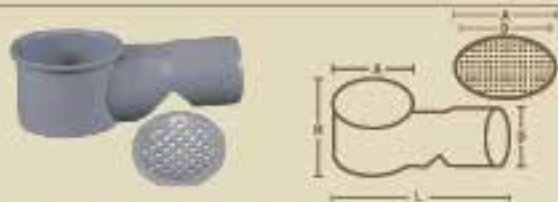
MULTI FLOOR TRAP ADAPTOR (HEIGHT RISER)



| SIZE | PART NO. | WT. | A | D | d | L | H |
|-------------|------------|------|-----|----|----|-----|-----|
| 110 x 50/40 | M112003344 | 2.75 | 110 | 50 | 40 | 180 | 158 |

Application : Required to raise the height of floor traps.

NAHANI TRAP & JALI



| SIZE (D) | PART NO. | H | L | A |
|----------|------------|-----|-----|-----|
| 63 | M142003106 | 67 | 215 | 120 |
| 75 | M142003107 | 85 | 256 | 128 |
| 90 | M142003108 | 91 | 260 | 128 |
| 110 | M142003109 | 100 | 270 | 128 |

NAHANI TRAP (SINGLE PIECE)

| | | | | |
|-------------------|------------|----|-----|-----|
| 63 (with Jali) | M142007006 | 67 | 215 | 120 |
| 63 (without Jali) | M142007106 | 67 | 215 | 120 |

| JALI | PART NO. | SIZE (D) | WT. | A |
|------|------------|----------|-----|-----|
| | M142008509 | 110 | 3.4 | 119 |

Application : For draining waste from bathroom / wash basin out to the main line.

GULLY TRAP (SQUARE TYPE) WITH JALI



| SIZE (D) | PART NO. | WT. | A | H | L |
|----------|------------|-----|-----|-----|-----|
| 110 | M142003409 | 3.2 | 139 | 239 | 290 |

uPVC DRAIN WASTE & VENT SYSTEM

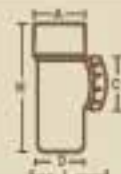
SOCKET PLUG



| SIZE (D) | PART NO. | WT. | L | H |
|----------|------------|-----|-----|----|
| 75 | M112002907 | 3.2 | 95 | 48 |
| 110 | M112002909 | 3.2 | 130 | 60 |

Application : Used as a blind plug to terminate the pipeline.

CLEANSING PIPE



| SIZE (D) | PART NO. | WT. | A | H | L | C |
|----------|------------|-----|-----|-----|-----|-----|
| 75 | M152002607 | 3.2 | 98 | 192 | 118 | 79 |
| 110 | M152002609 | 3.2 | 132 | 266 | 143 | 107 |

Application : Used in between a vertical line to facilitate cleaning.

VENT COWL



| SIZE (D) | PART NO. | WT. | H |
|----------|------------|-----|----|
| # 50 | M112002705 | 3.2 | 56 |
| # 63 | M112002706 | 3.2 | 67 |
| 75 | M112002707 | 3.2 | 67 |
| # 90 | M112002708 | 3.2 | 80 |
| 110 | M112002709 | 3.2 | 90 |

Application : Used as a cap on the top of the vertical line. Also helps in release of foul gases.

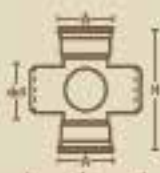
PIPE CLIP



| SIZE (D) | PART NO. | WT. | H | L |
|----------|------------|-----|-----|-----|
| 40 | M112002804 | 3.2 | 75 | 76 |
| 50 | M112002805 | 3.2 | 84 | 85 |
| 63 | M112002806 | 3.2 | 98 | 103 |
| 75 | M112002807 | 3.2 | 110 | 112 |
| 90 | M112002808 | 3.2 | 122 | 140 |
| 110 | M112002809 | 3.2 | 143 | 140 |
| 160 | M112002812 | 4.0 | 210 | 180 |

Application : To fix / secure the pipeline to the wall or flat surface.

BOSS ADAPTOR



| SIZE (D) | PART NO. | A | d x 3 | H | L |
|----------|------------|-----|-------|-----|-----|
| 110 x 63 | M152004232 | 132 | 63 | 200 | 180 |

Application : required to connect multiple draining. Provided with 3 additional inlets that can be opened as an when required.

BOTTLE GULLY TRAP



| SIZE (D) | PART NO. | A | d1 x 3 | d2 x 3 | H |
|-----------|------------|-----|--------|--------|-----|
| 160 x 110 | M192014131 | 132 | 100 | 50 | 300 |

Application : used to remove surface water from paved pedestrian areas. Side and back boss inlets accept waste water from ground floor domestic applications and / or rainwater from roofs. Accepts waste or rainwater pipework from 32 mm up to 110 mm sizes

GULLY TRAPS

NEW ARRIVALS

PRB4010 ABS MODULAR CHANNEL



| L | W | D | H |
|-----|-----|----|---------|
| 400 | 100 | 50 | 105-137 |

PRB6010 ABS MODULAR CHANNEL



| L | W | D | H |
|-----|-----|----|---------|
| 600 | 100 | 50 | 105-137 |

PRBG2010 JOINT TO GULLY FOR PANTICO BAGNO



| L | W |
|----|-----|
| 35 | 100 |

CHABS2010IN

GULLY TRAP ABS



| L | W | D | H |
|-----|-----|----|-----|
| 200 | 100 | 50 | 105 |

CHABS1050IN

ABS GULLY TRAP



| L | W | D | H |
|-----|-----|----|-------|
| 100 | 100 | 50 | 82-74 |

CHABS1050IN

ABS GULLY TRAP



| L | W | D | H |
|-----|-----|----|-------|
| 100 | 100 | 50 | 82-74 |

CHABS1050G

ABS GULLY TRAP



| L | W | D | H |
|-----|-----|----|-------|
| 100 | 100 | 50 | 82-72 |

CHPVC10G

PVC GULLY TRAP (GREY)



| L | W | D | H |
|-----|-----|----------|----|
| 100 | 100 | 32-40-82 | 50 |

CHPVC10N

PVC GULLY TRAP (BLACK)



| L | W | D | H |
|-----|-----|----------|----|
| 100 | 100 | 32-40-82 | 50 |

GULLY TRAPS

NEW ARRIVALS

CHPVC1550G

PVC GULLY TRAP



| L | W | D | H |
|-----|-----|----|----|
| 150 | 150 | 50 | 42 |

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

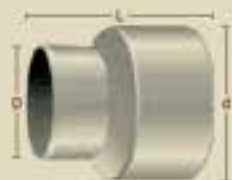
SOCKET REDUCER



| L | D | d |
|----|----|----|
| 50 | 75 | 50 |

RC110100

LEVEL INVERTER REDUCER



| L | D | d |
|-----|-----|-----|
| 120 | 100 | 110 |

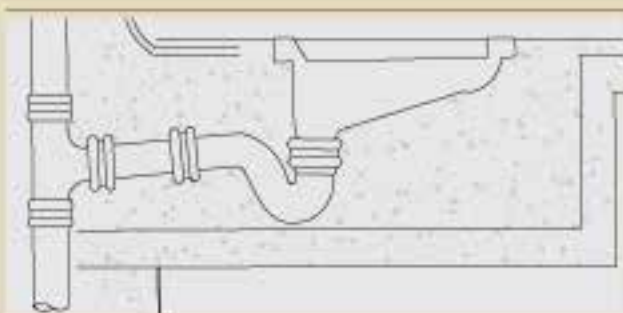
CWFL5511

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.

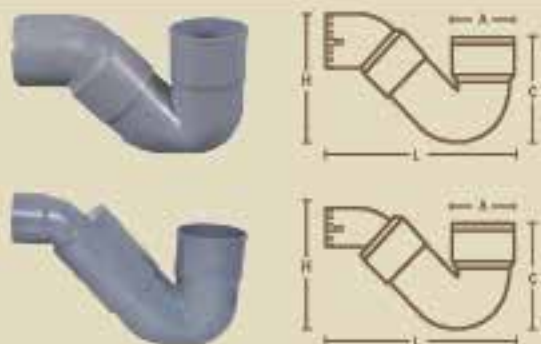
Conventional Cast Iron or cement traps are susceptible to bacterial growth due to its structure and material as they are not able to withstand the attack of salts, acidic or alkaline nature of effluent. This will lead to cracks in masonry and ultimately in inefficient working and unsatisfactory results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

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.

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.

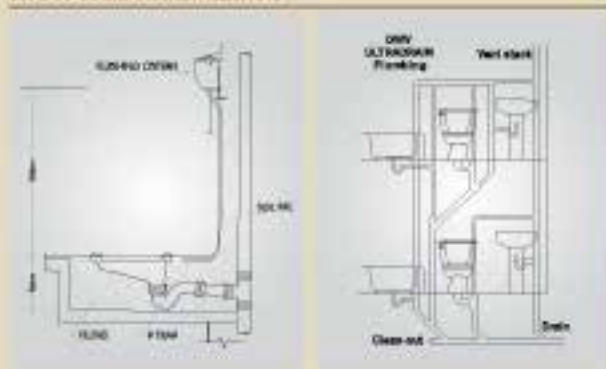
INSTALLATION OF TRAPS & TESTING THE SYSTEM

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.

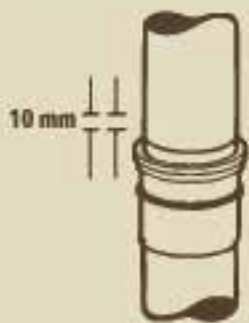
In such cases, outlet of traps can be inserted in the socketed end of pipe or fittings which ever is applicable and joint can be solvent cemented.

TYPE OF COMMON INSTALLATION



THERMAL EXPANSION & CONTRACTION

uPVC has a coefficient of linear expansion of 5.4×10^{-5} mm / mm / °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

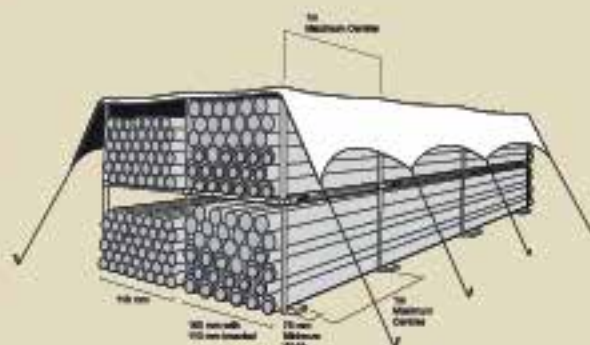
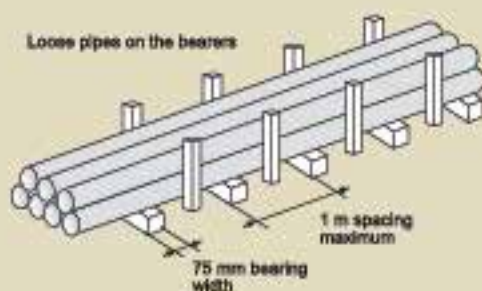
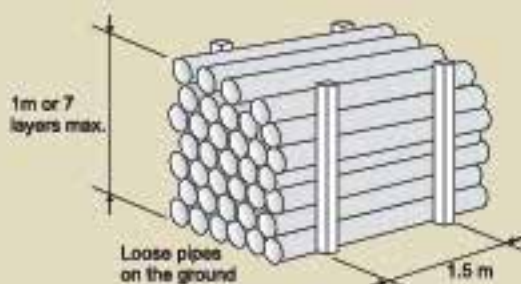
Temporary storage in the fields where racks are not provided, can be in stacks on the ground, providing this surface is level and free from loose stones or other sharp projections.

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.

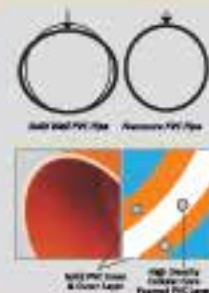
PRODUCT STANDARDS

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/M²) | 2 | 4 | 8 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



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 ?

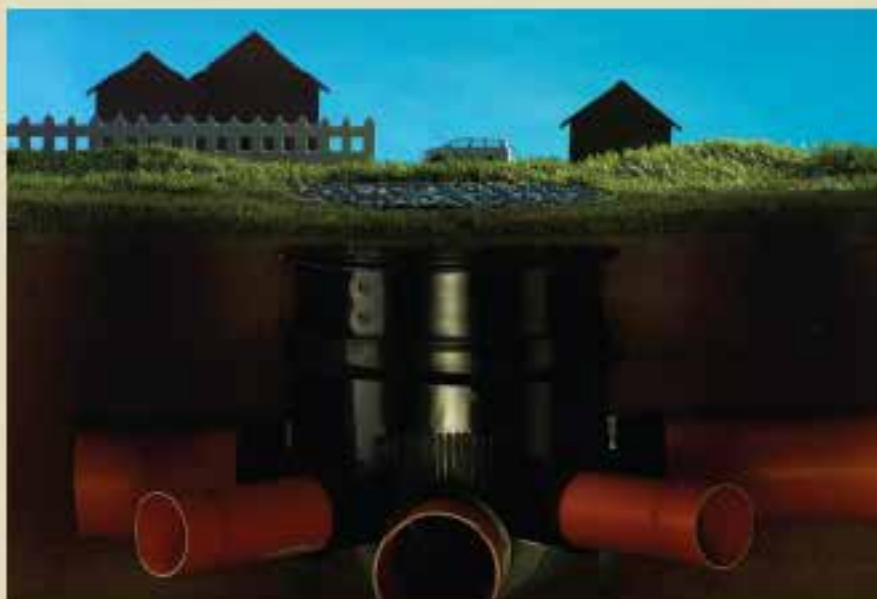
Astral Foamcore uPVC pipe is typical of solid wall PVC under load and the type of distortion normally expected. The Foamcore pipe on the right, under equal load, distributes the load more evenly and does not show the same amount of distortion, as it has unique "I-Beam" structure. Due to its ability of 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

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



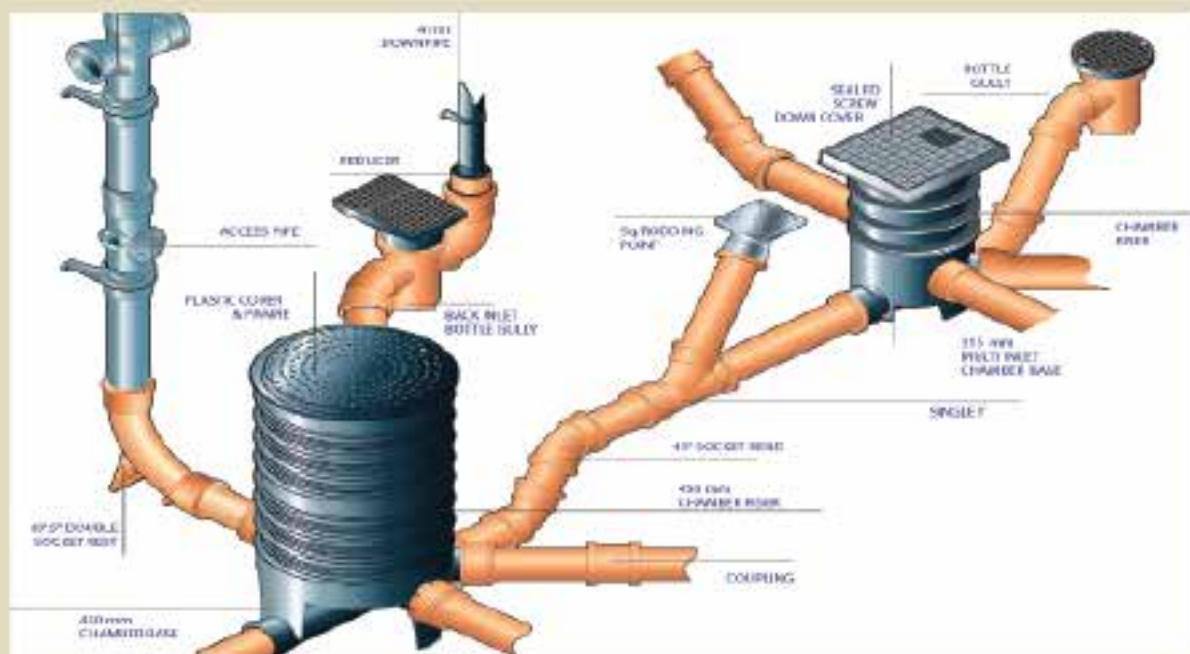
BENEFITS

- 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.



315 MM INSPECTION CHAMBER

Astral's innovative design for 315 mm, brings unmatched flexibility to the underground drainage market. The joints & seals are designed such that they can accommodate the movement of connecting piece up to 3° in any direction.

This is of great assistance to the installer where the connecting pipes are not perfectly aligned with the chamber inlets. In many instances it will eliminate the need to install an extra bend and provide a saving on the cost of the installation. The chamber base is designed to facilitate the stacking of bases on top of one another to give a space saving storage solution for the merchant stockist. In summary, the Inspection Chamber design and flexibility provides a practical, innovative and cost effective solution for the provision of access in a drainage system.



450 MM LARGE DIAMETER INSPECTION CHAMBER

Astral's product innovation is again demonstrated with the introduction of a new 450 mm. diameter large inspection chamber. Significant research and development has gone into the design of this unique product. The Chamber base incorporates 02-160 mm & 02-110 mm inlets with main through of 160 mm. Also 160 mm inlets can be converted to all 110 mm inlets with reducer, which allow 3° of movement in any direction. The plastic cover and frame can take loadings up to a maximum of 35kN.



INSTALLATION PROCEDURE - 315 & 450MM CHAMBERS

Installation of the chambers is to be done with the standard practice and as requirement of local authorities.

General installation figures are provided herewith for different type of installation mainly based on traffic loads which are going to impose on system. Fig. 1 is for installation of 450mm chamber base with durable polypropylene cover and frame having wheel load up to 3.5 tonnes. Suits pedestrian areas / domestic driveways. Fig. 2 is for installation of 450 mm chamber base with RCC cover and frame having wheel load up to 20 tonnes. Suits heavy traffic loads. Fig. 3 is for installation of 315 mm chamber base.

Astral® 315 mm chamber to be used with three risers. Depth are as shown in the chart below.

| 315 mm Chamber | Height mm |
|------------------|-----------|
| Only Body | 240 mm |
| With One Riser | 375 mm |
| With Two Riser | 510 mm |
| With Three Riser | 645 mm |

Astral® 450 mm chamber to be used with three risers. Depth are as shown in the chart below.

| 450 mm Chamber | Height mm |
|------------------|-----------|
| Only Body | 345 mm |
| With One Riser | 575 mm |
| With Two Riser | 740 mm |
| With Three Riser | 905 mm |
| With Four Riser | 1065 mm |

315mm Inspection Chamber Installation

1. Chamber base
2. Fix riser on Chamber base
3. Riser with Chamber base
4. Fix another riser on Chamber base
5. Fix rubber ring on frame
6. Fix frame
7. Put lid on it
8. Tighten with Screw
9. Fix foamcore pipe in inlet

INSTALLATION PROCEDURE - 315 & 450 MM CHAMBERS

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GENERAL STEPS FOR INSTALLATION :

- The chamber base should be bedded with suitable granular material or single size aggregates having no sharp edges on 100 mm depth for light traffic load conditions. For heavy traffic load conditions (Fig.1 & Fig.3), the base should be surrounded by concrete as shown in Fig. 2.
- When Astral® PP cover and frame is used, the cover and frame is to be supported on a concrete base while the chamber is surrounded by granular backfill 150mm wide as recommended. When RCC or other cover is used, the chamber should be fully supported in concrete surround.
- Connect the pipes with rubber lubricants as per the standard joining procedure.

Figure 1 : Polypropylene lockable cover & frame 3.5 tonnes wheel load suits pedestrian areas/domestic driveways

Figure 2 : RCC cover & frame for higher wheel loads

Figure 1 :

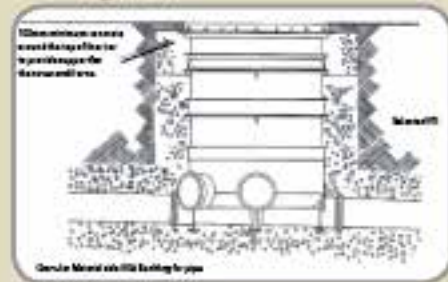
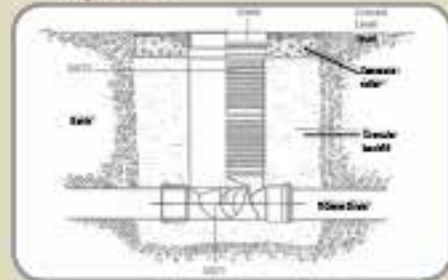


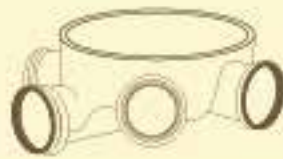
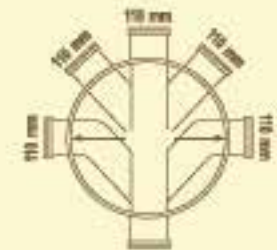
Figure 2 :



Figure 3 :



315 MM INSPECTION CHAMBER SYSTEM



- Base units are supplied with lubricated blanking plugs. These may be pushed out on site when required and used to secure unused inlets.
- When making joints, the pipe spigot must be well chamfered, de-burred, cleaned and lubricated using Astral's lubricant.
- The pipe is then pushed into the socket allowing a clearing for subsequent expansion i.e., pipes should be pushed home fully and then withdrawn by 10 mm.
- Depending on the depth of Invert required, use combination of the chamber base and risers. The riser can be cut for the intermediate depth. Use rubber seal ring in between chamber base and riser for 450 chamber and between last riser and cover for 315mm chamber. For subsequent risers, rubber rings are not required.
- Place the frame and cover to meet the site requirements and depending on the traffic loads.

INSTALLATION - 450MM CHAMBER

- Backfill the pit with granular material with 150 mm width. Properly compact the backfill material, if needed watering can be used.
- 6" PCC / RCC at the top is recommended for heavy traffic loads. The frame should be properly embedded in these concrete and then the cover should be placed on it.
- If the chamber is to be installed in ground where the water level may rise above the invert level of the chamber, the chamber must be bedded on and surrounded by concrete.
- Precaution must be taken to protect chamber from damage by construction site traffic.
- During backfilling, always place the cover and frame in position to prevent ingress of foreign matter into the drain and excessive deflection of the chamber walls.

ASTRAL UNDERGROUND - PRODUCT DETAILS:

| ASTRAL Underground Chamber | Invert Depth | | Component | Size of Inlet(s) Outlet | | Material | Load Capacity |
|----------------------------|--------------|-----------|---------------|-------------------------|----------------------|---------------------------------|---------------------|
| | Min. (mm) | Max. (mm) | | Main Inlet(s) Outlet | Main Inlet(s) Outlet | | |
| 315 | 230 | 600 | Base | 110 | 110 | Polypropylene Impact co-polymer | |
| | | | Riser | | | Polypropylene Impact co-polymer | |
| | | | Frame & Cover | | | Polypropylene Impact co-polymer | 1.5 tone wheel load |
| 450 | 340 | 1200 | Base | 180 | 02 No. 110 mm | Polypropylene Impact co-polymer | |
| | | | Riser | | 02 No. 180 mm | Polypropylene Impact co-polymer | |
| | | | Frame & Cover | | | Polypropylene Impact co-polymer | 3.5 tone wheel load |

NOTE: These chambers can be used for higher load capacities using RCC covers on top of them. Normally load capacities are applied to covers, not to chambers.

450mm Inspection Chamber Installation

450 MM INSPECTION CHAMBER SYSTEM



ASTRAL® GULLIES



GULLIES

A gully holds water, like a trap, to stop foul air escaping from the foul drainage system. Its purpose is to accept waste water from ground floor bathrooms, kitchens and utility rooms or rainwater from paved areas or roofs.

ASTRAL® BOTTLE GULLY

ASTRAL® bottle gullies can be used to remove surface water from paved pedestrian areas. Side and back boss inlets accept waste water from ground floor domestic applications and / or rainwater from roofs.

By adding a raising piece the gully grating can be installed where paving is set at varying heights, where a new surface is laid or if deep bedding is required. It can be cut to the desired length to allow the gully to be installed at depths of up to 600 mm, reducing the need for additional bends.

The Bottle Gully has one 110 mm outlet and three closed inlets for either waste pipe or 110 mm connections. To discharge waste pipes to this gully adapt the smaller

closed inlets by drilling them out with a 48 mm hole cutter and use the correct adaptor for the boss to accept the 32mm, 40mm and 50mm waste pipe.

Ideal for domestic, industrial and commercial installations.

Accepts waste or rainwater pipework from 32mm up to 110mm sizes includes sealed rodding access

Size Available : 160mm x 110mm



ASTRAL® SURFACE CHANNEL



The surface channel that are used at present are of cast iron or in concrete and due to their heavy weight it is difficult to handle or storage or to install and more over they are prone to corrosion. ASTRAL® offers surface channel made from polypropylene and they are free from above problems caused by traditional surface channel.

AVAILABLE SIZES : 110 mm x 1mtr (L x H x W) Long End. LH & RH both end caps are available.



LH END CAP



RH END CAP



COVER TEE



SALIENT FEATURE :

- Tough and durable
- Excellent corrosion and chemical resistance
- Environment friendly • Light weight
- Easy to install • Cost effective.
- Saves labour and material cost
- Effective substitute to C.J and concrete channels.
- Durable design resists up to 1 tonne wheel load

FIELD OF APPLICATION :

In various applications like pavements, road side curbs, cycle ways and car park area, shopping malls, sports grounds, building terrace, corporate houses, hotels, hospitals, academic institutes and many more places where surface drain is necessary.

INSTALLATION GUIDLINE :



Sufficient slope in the paving and channel should always be determined prior to installation to accommodate desired water run-off. Place channel in trench



Always backfill with concrete with the grating fitted Haunch concrete up and around channel without leaving any empty spaces



Engage all modules including bends before backfilling



Simple push-together channel system for ease of installation.

SPECIALLY DEVELOPED FITTINGS

ADJUSTABLE BEND :

Adjustable Bends are specially designed by ASTRAL® to suit with installation of inspection chambers. As the chamber inlet and outlets have fixed angle & position, adjustable bends can be changed depend on site requires. These bends are available in two different patterns one with 02 pcs (suitable for 5° to 37.5° movement) & 03 pcs (suitable for 0° to 87.5° movement). These bends eliminates use of extra fittings and pipes to get the angle with pipeline and hence very cost effective. Also it is durable, leakage free and very easy to install at any angle.

LONG RADIUS REST BEND :

This is specially designed to take the load of vertical shaft and the sudden impact of drain & sewer falling down from the vertical lines. The rib on the curve area will strengthen the bend and give adequate support to act as counter force against load due to falling sewer & drain.

ACCESS AND RODDING POINTS :

Access is very important on all installations for testing, inspection, and removal of any blockage or debris. Rodding in both directions can be achieved by using a 315 mm or 450 mm Large Inspection Chamber in conjunction with access fittings. Rodding points are more usually used in storm water drainage systems where the rodding point is located at the head of the drain run connection to a chamber, and being no further than 22 meters away from the chamber. The rodding point should be enclosed in a concrete surround to provide support and to ensure that it does not become mislaid at ground level. Rodding points eliminates the need for majority of conventional manholes. By using various combinations of rodding point with ASTRAL's other standard range of fittings, considerable savings can be achieved on cost of underground drainage system.



2 Pc Adjustable Bend



3 Pc Adjustable Bend



Long Radius Bend



Access and Rodding Points

STANDARD FITTINGS

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ASTRAL UNDERGROUND® MOLDED FITTINGS



Bend 87.5°



Bend 45°



Single Tee



Swept Tee



Swept Tee With Door



Single "Y"



Coupler



Blanking Plug

ASTRAL UNDERGROUND® FABRICATED FITTINGS



Equal Tee



Reducer Tee



Fabricated Coupler



Long Radius Bend



End Cap

*Other Molded / Fabricated fittings are available on request.



ULTRA MODERN DRAINAGE SYSTEM

KEY FEATURES :

- Pre-fabricated system - complete with benching, shaft, steps and accessories.
- Stream line design and mirror smooth internal surface finish.
- Multiple configuration options in single piece.
- Multiple inlet options with a variety of inlet and outlet sizes in single piece.
- Fast, Easy, Flexible and Safe installation in hours with leak proof pipe connections in minutes.
- Completely water tight with no infiltration or ex-filtration.
- Ultra durable and resistant to corrosion.
- Can be very easily installed in heavy traffic or water logged areas.
- High quality as per latest European Standard EN 13598 leading to consistent quality for entire project.
- Maintenance Free.
- Reduced operating cost - minimal blockages due to hydraulically optimized channels, no Infiltration.
- Environment friendly - watertight preventing pollution / low carbon footprint.
- Top quality accessories - watertight rubber seals for pipe connection (EN 681-1); corrosion resistant steps.

ULTRA-MODERN INSPECTION CHAMBERS WITH THE WIDEST RANGE

ASTRAL P.E. MANHOLE & INSPECTION CHAMBERS

Astral introduces the best underground drainage system which connects SWR system to the main drains, public sewer or sewage treatment plant. It's a complete solution for building drainage and sewerage application. Astral has designed and developed this ultra-modern system with a view to cater to highly sophisticated building drainage requirements.

ASTRAL UNDERGROUND DRAINAGE SYSTEM AVAILABLE SIZES WITH OPTIONS OF INLET AND OUTLET.

| SIZES MM | INLET MM | OUTLET MM | COVER MM | PERSON ENTRY |
|----------|----------|-----------|----------|--------------|
| 315 | 110 | 110 | 315 | NO |
| 450 | 110-160 | 110-160 | 450 | NO |
| 500 | 110-160 | 110-160 | 500 | NO |
| 600 | 110-250 | 110-250 | 600 | NO |
| 800 | 110-250 | 110-250 | 600 | YES |
| 1000 | 110-315 | 110-315 | 600 | YES |

ASTRAL 500, 600, 800 & 1000 MM MANHOLE ARE AVAILABLE IN 5 INLET BASE & 3 INLET BASE OPTIONS.



ASTRAL UNDERGROUND INSPECTION CHAMBER & MANHOLE INVERT DEPTH

| SINGLE PIECE | SIZE OF CHAMBER & MANHOLE | HEIGHT | Inlet's | Outlet |
|-----------------------------|----------------------------|--|-------------|-------------|
| | 500 mm DIA - 5 INLET | 500MM 750MM 1000MM | 110/160 | 110/160 |
| | 600 mm DIA - 5 INLET | 500MM 750MM 1000MM 1250MM 2000MM | 110/160 | 110/160 |
| | 600 mm DIA - 3 INLET | 500MM 750MM 1000MM 1250MM 2000MM | 160/200/250 | 160/200/250 |
| | 800 mm DIA - 5 INLET | 1000MM 1250MM 1500MM | 110/160 | 110/160 |
| | 800 mm DIA - 3 INLET | 1250MM 1500MM 1750MM | 160/200/250 | 160/200/250 |
| | 1000 mm DIA - 5 INLET | 1250MM 1500MM 1750MM | 110/160/200 | 110/160/200 |
| | 1000 mm DIA - 3 INLET | 1250MM 1500MM 1750MM | 200/250/315 | 200/250/315 |
| 1000 mm DIA MANHOLE MODULAR | | | | |
| BASE UNIT - 3 INLET | 650MM | 200/250/315 | 200/250/315 | |
| BASE UNIT - 5 INLET | 650MM | 110/160/200 | 110/160/200 | |
| RAISER UNIT | 500MM 750MM 1000MM | Invert depth = base + raiser + upper unit | | |
| UPPER UNIT | 1100MM 1350MM 1600MM | | | |
| FLAT BASE | | | | |
| FLAT BASE - 500 mm | 450MM 700MM 950MM | -- | -- | |
| FLAT BASE - 600 mm | 450MM 700MM 950MM | -- | -- | |
| Gully Trap | | | | |
| GULLY TRAP - 110 mm | 405MM | -- | 110 mm | |

SURFACE CHANNELS

NEW ARRIVALS

CSA100

PVC CHANNEL



| L | W | H |
|------|-----|-----|
| 1000 | 100 | 100 |

SGR100G

PVC GRID



| L | W |
|-----|-----|
| 500 | 100 |

GSZ10999

GALVANIZED GRID A15



| L | W |
|------|-----|
| 1000 | 100 |

CSA130

PVC CHANNEL



| L | W | H |
|-----|-----|-----|
| 500 | 130 | 150 |

CGRN130G

PVC REINFORCED GRID



| L | W |
|-----|-----|
| 500 | 130 |

MG13999G

MULTIGRIL GRID



| L | W |
|------|-----|
| 1000 | 130 |

RAC100

FOUR WAY UNION FOR CHANNEL



| L | W | H |
|------|-----|-----|
| 1000 | 100 | 100 |

TCA100

END SOCKET PRATIKO



| L | W | H |
|-----|-----|-----|
| 100 | 130 | 110 |

CAG5130

OUTLET SOCKET PRATIKO



| L | W | D x 3 | d x 3 |
|-----|-----|-------|-------|
| 130 | 170 | 80 | 75 |

TCA131

END SOCKET PRATIKO



| L | D | H |
|-----|-----|-----|
| 130 | 130 | 145 |

SURFACE CHANNELS

NEW ARRIVALS

CSA200 PVC DRAINAGE CHANNEL



| L | W | H |
|-----|-----|-----|
| 500 | 200 | 175 |

CGRN20LG LIGHT PVC GRID



| L | W |
|-----|-----|
| 500 | 200 |

CGRN20SG REINFORCED PVC GRID



| L | W |
|-----|-----|
| 500 | 200 |

RCA130 FOUR WAY UNION FOR HIGH CHANNEL



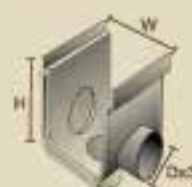
| Lx4 | H | D |
|-----|-----|--------|
| 130 | 145 | 90-110 |

TCA200 END SOCKET PRATIKO



| L | D | W | H |
|-----|-------------|-----|-----|
| 200 | 100-110-125 | 115 | 180 |

CAGS200 OUTLET SOCKET PRATIKO



| W | H | Dx3 |
|-----|-----|-----|
| 200 | 200 | 125 |

PCF1090G SLOTTED GRID PVC A15



| L | W | H |
|-----|-----|----|
| 500 | 100 | 90 |

PCF10146 SLOTTED GRID PVC B125



| L | W | H |
|-----|-----|-----|
| 500 | 100 | 140 |

PCF1390G PVC SLOTTED GRID



| L | W | H |
|-----|-----|----|
| 500 | 130 | 90 |

PCF13146 PVC SLOTTED GRID



| L | D | H |
|-----|-----|-----|
| 500 | 130 | 140 |

PRODUCT RANGE

ASTRAL
CPVC PRO

ADVANCED HOT AND COLD WATER PLUMBING SYSTEM

ADVANCED HOT AND COLD WATER
PLUMBING SYSTEM



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THE COMPLETE
LOW NOISE SYSTEM



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Aquarius
STANDARD ASSOCIATED
UPVC PLUMBING SYSTEM FOR CITIES LOOP LINES

LEAD FREE UPVC SOLVENT WELD
PLUMBING SYSTEM



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HEAVY METAL & LEAD FREE
COLUMN PIPES FOR SUBMERSIBLE PUMP



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FOR PROVIDING PROPER
SUPPORT TO PIPES AND CABLES



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Wire Guard
Conduit Pipes & Fittings

CONDUIT PIPES FOR PROTECTION
OF WIRES AND CABLES



ASTRAL
AquaSAFE

UPVC PIPES FOR AGRICULTURE
& WATER TRANSPORT SYSTEM



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