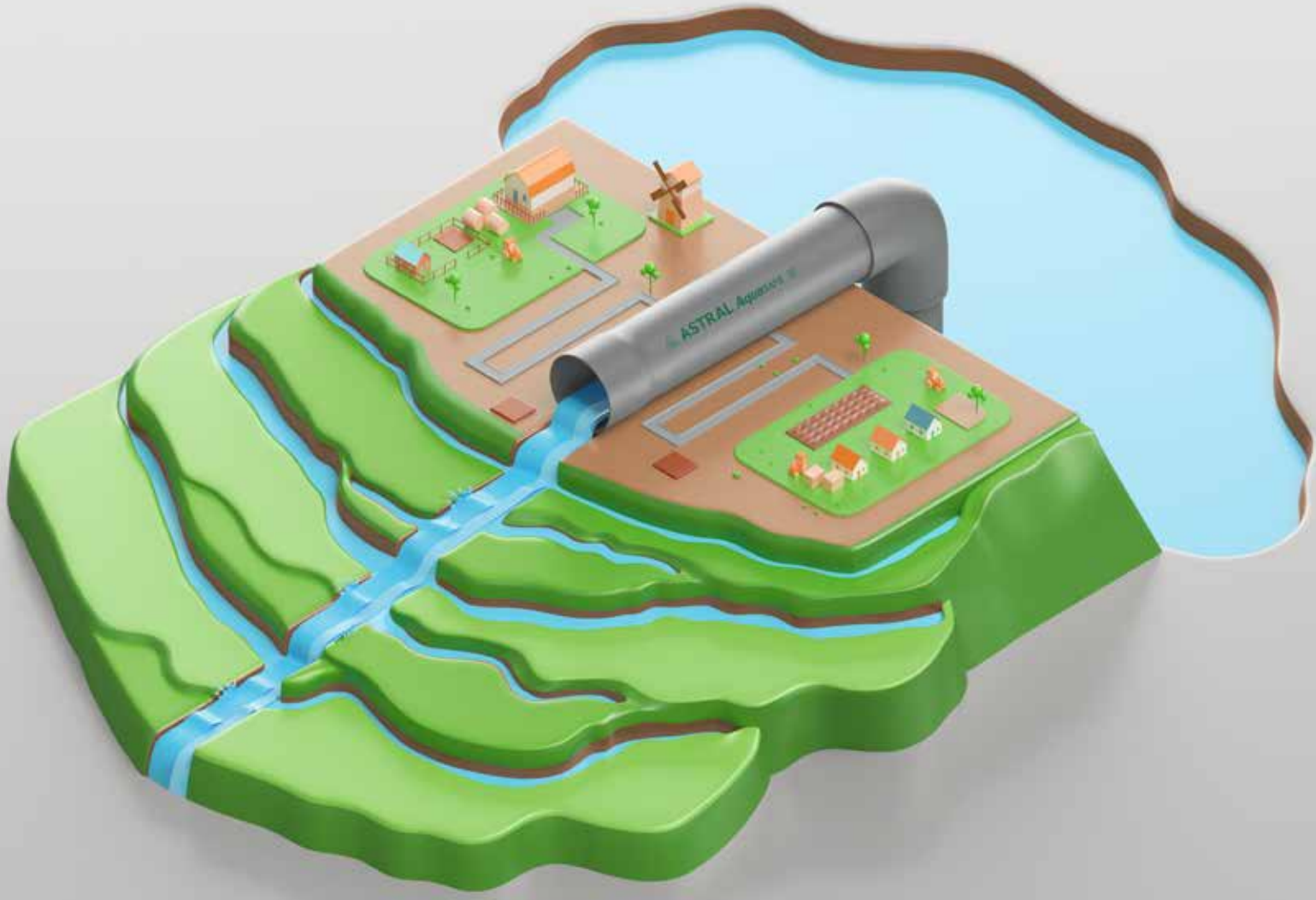
ASTRAL PIPES

AquaSAFE®

uPVC PRESSURE PIPING SYSTEM FOR POTABLE WATER TRANSPORT AND AGRICULTURE

PRODUCT CATALOGUE



IS:4985 IS:7834 IS:10124

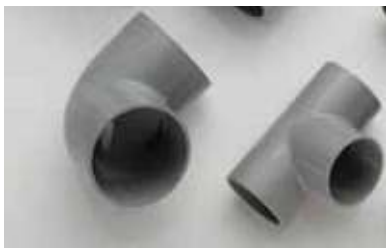
ONLY THOSE PRODUCTS BEARING THE ABOVE MARKS ARE CERTIFIED

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1st TO INTRODUCE CPVC IN INDIA

1st TO INTRODUCE UPVC LEAD FREE PIPES IN INDIA

1st TO INTRODUCE LOW NOISE PP DRAINAGE PIPES IN INDIA

1st TO INTRODUCE FOAMED PVC DRAINAGE PIPES IN INDIA



1st TO INTRODUCE LEAD FREE COLUMN PIPES IN INDIA

1st TO INTRODUCE POLYMER BASED INDUSTRIAL PIPING SYSTEM IN INDIA

1st TO INTRODUCE NSF APPROVED SOLVENT CEMENT IN INDIA

1st TO INTRODUCE CPVC PIPING FOR AUTOMATIC FIRE SPRINKLER SYSTEM IN INDIA

ASTRAL, INDIA'S PROGRESSIVE BUILDING MATERIALS COMPANY

Established in 1996 with the aim to manufacture best-in-globe plastic piping systems, Astral Pipes fulfils emerging piping needs of millions of houses and adds extra mileage to India's developing real estate fraternity with the hallmark of unbeaten quality and innovative piping solutions. Keeping itself ahead of the technology curve, Astral has always been a front runner in the piping category by bringing innovation and getting rid of old, primitive and ineffective plumbing methods. Bringing CPVC in India, and pioneering in this technology, have set Astral apart and its highest quality enabled it to obtain NSF approval for its CPVC pipes and fittings. Astral went beyond the category codes by launching many industry firsts, like launching India's first lead-free uPVC pipes for plumbing as well as for stream water, just to name a few.

Astral Pipes offers the widest product range across this category when it comes to product applications. Astral Pipes is equipped with production facilities at Santej and Dholka in Gujarat, Hosur in Tamil Nadu, Ghiloth in Rajasthan, Sangli & Aurangabad in Maharashtra, and Sitarganj in Uttarakhand to manufacture plumbing systems, drainage systems, agriculture systems, fire sprinkler piping systems, industrial piping and electrical conduit pipes with all kinds of necessary fittings.

Astral Pipes' Infrastructure division offers a comprehensive product range including corrugated piping for drainage and cables, polyolefin cable channels, sewage treatment plants, plastic sheathing ducts, suction hoses, and sub-surface drainage systems. This range helps Astral to establish a strong foothold in infrastructure and agriculture sector in the constantly evolving business of piping.

In 2014, Astral forayed into the adhesives category by acquiring UK-based Seal It Services Ltd. and Kanpur based Resinova Chemie Ltd., which manufacture adhesives, sealants and construction chemicals. With five manufacturing facilities now in this business segment, Astral has strengthened its presence in the category and made rapid inroads.

In the year 2020, Astral has expanded its product portfolio and entered into the Water Tanks Segment. The water tank segment is an expanded domain of plumbing and water supply with a huge nationwide potential. Astral Pipes manufactures water tanks from its Santej, Aurangabad, Hosur & Ghiloth manufacturing facilities. A wide range of water storage tanks has helped Astral to become a versatile player in the industry.

Extending the product portfolio further, in the year 2022 Astral forayed into the categories of Faucets and Sanitaryware, followed by acquisition of Bangalore based Gem Paints to enter in the Paints category. This expansion will help Astral march firmly towards becoming a holistic building materials company.

ADHESIVES

EPOXY ADHESIVES & PUTTY
SILICONE SEALANTS
CONSTRUCTION CHEMICALS **PVA**
CYANOACRYLATE **SOLVENT CEMENTS**
TAPES **POLYMERIC FILLING COMPOUND**
ANAEROBIC ADHESIVES
INDUSTRIAL ADHESIVES
INSTANT HAND SANITIZER
SURFACE CLEANING PRODUCTS

PIPING

PLUMBING PIPES & FITTINGS
CPVC, PVC & PEX
SEWERAGE DRAINAGE PIPES & FITTINGS
AGRICULTURE PIPES & FITTINGS
INDUSTRIAL PIPES & FITTINGS
FIRE SPRINKLERS PIPES & FITTINGS
CONDUIT & CABLE PROTECTION
ANCILLARY PRODUCTS
URBAN INFRASTRUCTURE
DUCTING

WATER TANKS

PAINTS



FAUCETS

SANITARYWARE



INNOVATION & RECOGNITIONS

- 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 (2012-13)
- Business Standard Star SME of the year (2013)
- Inc. India Innovative 100 for 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 Pipe Brand Award (2016, 2019 & 2020)
- ET Inspiring Business Leaders of India Award (2016)
- India's Most Attractive Pipe Brand Award (2016)
- Fortune India 500 Company (2016)
- Consumer Validated Superbrands India (2017 & 2019)

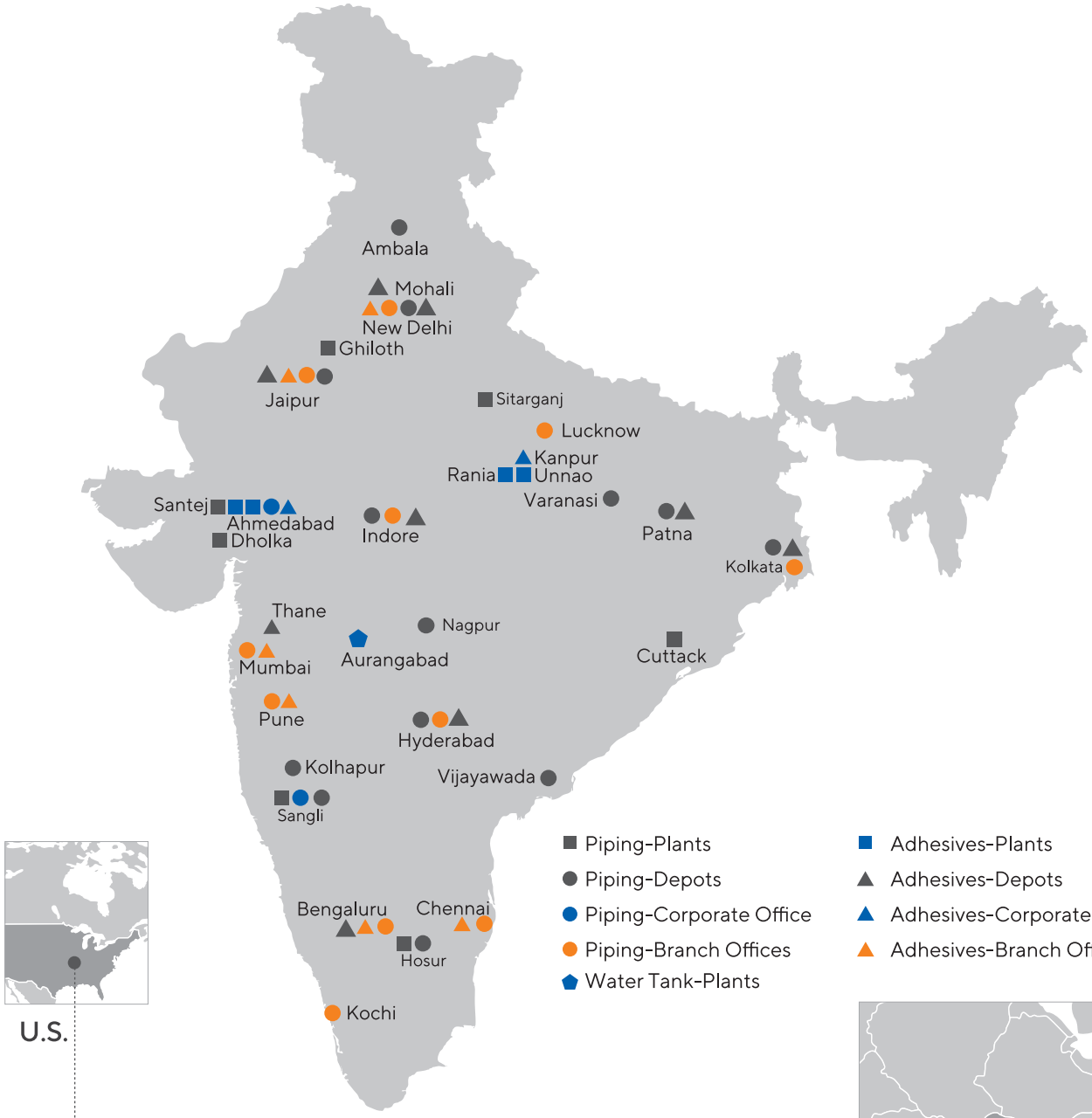
SELECTED Superbrands INDIA Consumer Validated 2021-22

Power of Trust 2022

FORTUNE INDIA 500

MARKETING NETWORK

Astral has a marketing network of more than 800 distributors and 30,000 dealers spread all over India with branch offices at Mumbai, Pune, Delhi, Bengaluru, Chennai, Hyderabad, Jaipur, Lucknow and Kochi. Apart from that Astral has its own warehouses at Vijaywada, Hyderabad, Delhi, Kolhapur, Kolkata, Nagpur, Indore, Patna, Varanasi, Jaipur & Hosur to deliver the material as quick as possible. More than 400 techno marketing professionals and administrative personnel are on the board to coordinate with architects, plumbing contractors and plumbers to utilize the best plumbing techniques and to get the best from the products.





ABOUT ASTRAL AquaSAFE®

Astral Aquasafe system offers wide range of uPVC pressure pipes and fittings. Astral Aquasafe uPVC pressure pipes are manufactured in accordance with IS : 4985 as well as company's standard covering complete range from 20 mm to 400 mm. They are available in various pressure ratings as defined in IS : 4985. The pipes are provided with plain socket and ring socket (elestomeric seal ring). Astral Aquasafe pipes and fittings can be joined together by Astral uPVC solvent cement or elestomeric seal ring.

Astral Aquasafe fittings are manufactured as per IS : 7834 and fabricated fittings as per IS:10124(Part-2) as well as company's standards. Both pipes and fittings are grey in colour manufactured from uPVC raw material and hence they are corrosion free forever.

WHY ASTRAL AQUASAFE

1. Introduced many new products for the first time in India

Keeping itself ahead of technology curve, Astral has always been a front runner in the piping category by bringing innovation and getting rid of old, primitive and ineffective plumbing methods. Bringing CPVC in India, and pioneering in this technology, have set Astral apart and enabled it to obtain NSF approval for its CPVC pipes and fittings. Astral went beyond category codes by launching many industry firsts, like launching India's first lead-free uPVC pipes for plumbing as well as for stream water, just to name a few. Astral Pipes offers the widest product range across this category when it comes to product applications.

2. State of the art manufacturing

Astral Pipes is equipped with production facilities at Dholka in Gujarat, Hosur in Tamil Nadu, Ghiloth in Rajasthan to manufacture agriculture systems with all kinds of necessary fittings.

3. Widest product range

Astral Pipes offers a wide range of Aquasafe piping solutions from 20 mm OD to 400 mm OD and from Class 1 (2.5 kgf/cm^2) to Class 6 (12.5 kgf/cm^2). Also offers 20 mm to 50 mm Plumbing pipes.

4. Pipe, fittings and adhesives in Astral only

Astral Pipes offers world class solvent cement to join Pipes and Fittings. Weld-on is quality product from Astral that joins pipes and fittings.

5. Best Dimensional Accuracy

Astral Pipes follows international quality standards and parameters to ensure dimensional accuracy across our product range.

6. Rigorous quality control

All of our product range is tested right from raw material stage to finished product stage. Astral Pipes conducts many traditional and non-traditional tests to ensure that we put the best product in the market.

FIELDS OF APPLICATIONS

Astral Aquasafe pipes and fittings are used for variety of applications like agriculture, irrigation, water supply, industrial process lines, swimming pools etc.

Astral Aquasafe pipes are superior to CI, GI, R.C.C. and offers multiple advantages like light weight, easy and fast installation, excellent corrosion and chemical resistance, high flow rates, long life and economical.

FEATURES

- Manufactured from quality raw material.
- Easy handling, transportation & installation.
- Excellent chemical resistance.
- Non conductive.
- Long life cycle.
- Ease of use.
- Better flow for optimum yields.
- Selfit jointing ensures leak proof jointing system for optimum results.
- Manufactured on most sophisticated machines to ensure a superior product every time.
- High strength & durability.
- Non reactive with acidic and alkali substances in water. They are ideal for drain water discharge as well as most of the chemicals.
- UV stabilized and hence suitable for outdoor applications.
- Manufactured under highest quality standards which ensures reliability of the product.

KEY PROPERTIES

HIGH CORROSION RESISTANCE

Astral Aquasafe pipes and fittings are Non reactive with acidic and alkali substances in water with excellent chemical resistance, making it ideal for drain water discharge as well as most of the chemicals. Aquasafe pipes and fittings are UV stabilized, hence compatible with outdoor use .

NO MAINTENANCE

Selfit jointing ensures leak proof jointing system for optimum results while maintaining better flow and maintenance free usage for years.

CONDUCTIVITY

Astral Aquasafe is non-conductor of electricity and thus prevents electrical shocks.

STRENGTH & QUALITY

High strength & durability. Manufactured from quality raw materials under highest quality standards which ensures reliability of the product. This results in long life cycle

UV STABILIZED

Aquasafe pipes and fittings are UV stabilized, hence compatible with outdoor use

EASY TO INSTALL

Easy handling, transportation & installation. It's lightweight and strong material ensures ease of use



Aquasafe pipes being installed at one of the farms of Halvad, Gujarat.

TECHNICAL SPECIFICATION

BASIC PHYSICAL PROPERTIES OF PVC MATERIAL

PROPERTY	PVC	ASTM NO.
MECHANICAL PROPERTIES		
Density	1.41 - 1.46 gm/cc	D 792
Tensile Strength (23 °C)	48 N/mm^2	D 638
Flexural Strength (23 °C)	104 N/mm^2	D 790
Compressive Strength (23 °C)	62 N/mm^2	D 695
Izod Impact (Notched at 23 °C)	60 J/m	D 256
Hardness (Durometer D)	80 ± 3	
Hardness (Rockwell R)	110 -120	
Hydrostatic Design Stress	140.6 Kg/cm^2	D 1598
Elongation at Break	50 - 80%	
Modulus of Elastisity in Tension (23 °C)	2500 N/mm^2	D 638
THERMAL PROPERTIES		
Coefficient of Linear Expansion	$6.3x10^{-5}$ m/m/°K	D 696
Vicat Softening Temp.	80 °C	
Heat Deflection Temparature at 66 PSI	80 °C	D 648
Flame Resistance	Self extingushing. uPVC does not support combution when the source of ignition is removed	
Limiting Oxygen Index	43%	D 2863
ELECTRICAL PROPERTIES		
Electrical Resistance	≥ 100 Ω	ASTM D876
Dielectric Strength	1100	ASTM D147
Dielectric Constant (60Hz, 23 °C/-1°C)	3.7	ASTM D150

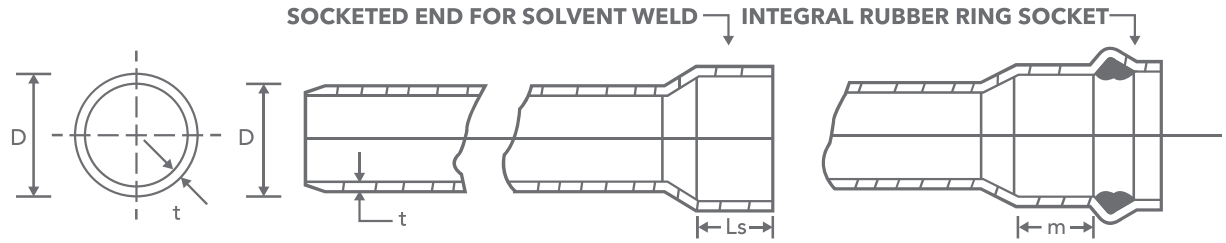
Above data is based upon information provided by the raw material manufacturers. It should be used only as a recommendation and not as a guarantee of performance.

Astral Aquasafe pipes and fittings are go through the stringent quality test from raw material to production and at the final product.

- Raw Material Test
- Stress Relief Test
- Dimension & Visual Appearance Test (Dia., Wall Thickness etc.)
- Reversion Test
- Density Test
- Effect on Water Test
- Opacity Test
- Hydrostatic Pressure Test
- Drop Impact Test
- Sulphated Ash Content Test
- Vicat Softening Temperature Test



TECHNICAL SPECIFICATION



DIMENSIONS OF SOCKETS FOR SOLVENT CEMENT JOINTING

NOMINAL SIZE (D) (mm)	SOCKET LENGTH (L_s) (mm)
20	16.0
25	19.0
32	22.0
40	26.0
50	31.0
63	37.5
75	43.5
90	51.0
110	61.0
125	68.5
140	76.0
160	86.0
180	96.0
200	106.0
225	118.5
250	131.0
280	146.0
315	163.5
355	183.5
400	206.0

MINIMUM DEPTH OF ENGAGMENT FOR ELASTOMERIC RING SOCKET

NOMINAL SIZE (D) (mm)	MINIMUM DEPTH OF ENGAGMENT (m) (mm)
63	64
75	67
90	70
110	75
125	78
140	81
160	86
180	90
200	94
225	100
250	105
280	112
315	118
355	124
400	130

DIMENSIONS OF uPVC PRESSURE PIPES CONFORMING TO IS:4985

Nominal Outside Diameter		Tolerance on Mean Outside Diameter	WALL THICKNESS													
			Class 1 (PN) 2.5 kgf/cm²		Class 2 (PN) 4 kgf/cm²		Class 3 (PN) 6 kgf/cm²		Class 4 (PN) 8 kgf/cm²		Class 5 (PN) 10 kgf/cm²		Class 6 (PN) 12.5 kgf/cm²		Plumbing	
cm	mm		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
2.0	20	+0.3	-	-	-	-	-	-	-	-	1.1	1.5	1.4	1.8	2.8	3.3
2.5	25	+0.3	-	-	-	-	-	-	1.2	1.6	1.4	1.8	1.7	2.1	2.9	3.4
3.2	32	+0.3	-	-	-	-	-	-	1.5	1.9	1.8	2.2	2.2	2.7	3.4	3.9
4.0	40	+0.3	-	-	-	-	1.4	1.8	1.8	2.2	2.2	2.7	2.8	3.3	3.6	4.2
5.0	50	+0.3	-	-	-	-	1.7	2.1	2.3	2.8	2.8	3.3	3.4	4.0	3.7	4.3
6.3	63	+0.3	-	-	1.5	1.9	2.2	2.7	2.8	3.3	3.5	4.1	4.3	5.0	-	-
7.5	75	+0.3	-	-	1.8	2.2	2.6	3.1	3.4	4.0	4.2	4.9	5.1	5.9	-	-
9.0	90	+0.3	1.3	1.7	2.1	2.6	3.1	3.7	4.0	4.6	5.0	5.7	6.1	7.1	-	-
11.0	110	+0.4	1.6	2.0	2.5	3.0	3.7	4.3	4.9	5.6	6.1	7.1	7.5	8.7	-	-
12.5	125	+0.4	1.8	2.2	2.9	3.4	4.3	5.0	5.6	6.4	6.5	8.0	8.5	9.8	-	-
14.0	140	+0.5	2.0	2.4	3.2	3.8	4.8	5.5	6.3	8.0	7.7	8.9	9.5	11.0	-	-
16.0	160	+0.5	2.3	2.8	3.7	4.3	5.4	6.2	7.2	8.3	8.8	10.2	10.9	12.6	-	-
18.0	180	+0.6	2.6	3.1	4.2	4.9	6.1	7.1	8.0	9.2	9.9	11.4	12.2	14.1	-	-
20.0	200	+0.6	2.9	3.4	4.6	5.3	6.8	7.9	8.9	10.3	11.0	12.7	13.6	15.7	-	-
22.5	225	+0.7	3.3	3.9	5.2	6.0	7.6	8.8	10.0	11.5	12.4	14.3	15.3	17.6	-	-
25.0	250	+0.8	3.6	4.2	5.7	6.5	8.5	9.8	11.2	12.9	13.8	15.9	17.0	19.6	-	-
28.0	280	+0.9	4.1	4.8	6.4	7.4	9.5	11.0	12.5	14.4	15.4	17.8	19.0	21.9	-	-
31.5	315	+1.0	4.6	5.3	7.2	8.3	10.7	12.4	14.0	16.1	17.3	19.9	21.4	24.7	-	-
35.5	355	+1.1	5.1	5.9	8.1	9.4	12.0	13.8	15.8	18.2	19.6	22.6	24.1	27.8	-	-
40.0	400	+1.2	5.8	6.7	9.1	10.5	13.5	15.6	17.8	20.5	22.0	25.3	27.2	31.3	-	-

Note: All dimensions are in mm

AVAILABILITY OF PIPES

uPVC SOLVENT FITTED PRESSURE PIPES CONFIRMING TO IS:4985

PRESSURE	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
AQUASAFE  PIPE																				
2.5 kgf/cm²								●	●	●	●	●	●	●	●	●	●	●	●	●
4 kgf/cm²						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6 kgf/cm²				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8 kgf/cm²		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
10 kgf/cm²	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12.5 kgf/cm²	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
16 kgf/cm² (Plumbing)	●	●	●	●	●															

● Confirm to IS:4985

AQUASAFE ELASTOMERIC SEALING RING PIPES CONFIRMING TO IS:4985

SOCKET	SIZE (mm)	PRESSURE	AVAILABLE
GR	63	4/6/10 kgf/cm²	3/5/6 mtr
GR	75	4/6/10 kgf/cm²	3/5/6 mtr
GR	90	4/6/10 kgf/cm²	3/5/6 mtr
GR	110	4/6/10 kgf/cm²	3/5/6 mtr
GR	125	4/6/10 kgf/cm²	3/5/6 mtr
GR	140	4/6/10 kgf/cm²	3/5/6 mtr
GR	160	4/6/10 kgf/cm²	3/5/6 mtr
GR	180	4/6/10 kgf/cm²	3/5/6 mtr
GR	200	4/6/10 kgf/cm²	3/5/6 mtr
GR	225	4/6/10 kgf/cm²	3/5/6 mtr
GR	250	4/6/10 kgf/cm²	3/5/6 mtr
GR	280	4/6/10 kgf/cm²	3/5/6 mtr
GR	315	4/6/10 kgf/cm²	3/5/6 mtr
GR	355	4/6/kgf/cm²	3/5/6 mtr
GR	400	4/6/kgf/cm²	3/5/6 mtr

PRODUCT



ASTRAL AquaSAFE®

IS:4985 IS:7834 IS:10124

ONLY THOSE PRODUCTS BEARING
THE ABOVE MARKS ARE CERTIFIED

RANGE

AQUASAFE SOLVENT FITTED PIPES

FOR AGRICULTURE & WATER SUPPLY, CONFORMING TO IS:4985



3 METRE PIPE

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code (2.5 kgf/cm²)	Product Code (4 kgf/cm²)	Product Code (6 kgf/cm²)	Product Code (8 kgf/cm²)	Product Code (10 kgf/cm²)	Product Code (12.5 kgf/cm²)	Product Code (Plumbing)
2.0	½	-	-	-	-	M081100301	M081125301	M081160301
2.5	¾	-	-	-	M081080302	M081100302	M081125302	M081160302
3.2	1	-	-	-	M081080303	M081100303	M081125303	M081160303
4.0	1¼	-	-	M081060304	M081080304	M081100304	M081125304	M081160304
5.0	1½	-	-	M081060305	M081080305	M081100305	M081125305	M081160305
6.3	2	-	M081040306	M081060306	M081080306	M081100306	M081125306	-
7.5	2½	-	M081040307	M081060307	M081080307	M081100307	M081125307#	-
9.0	3	M081250308	M081040308	M081060308	M081080308	M081100308	M081125308	-
11.0	4	M081250309	M081040309	M081060309	M081080309	M081100309	M081125309	-
12.5	4½	M081250310	M081040310	M081060310	M081080310	M081100310	M081125310	-
14.0	5	M081250311	M081040311	M081060311	M081080311	M081100311	M081125311	-
16.0	6	M081250312	M081040312	M081060312	M081080312	M081100312	M081125312	-
18.0	7	M081250313	M081040313	M081060313	M081080313	M081100313	M081125313	-
20.0	8	M081250314	M081040314	M081060314	M081080314	M081100314	M081125314	-
22.5	9	M081250315	M081040315	M081060315	M081080315	M081100315	M081125315	-
25.0	10	M081250316	M081040316	M081060316	M081080316	M081100316	M081125316	-
28.0	11	M081250317	M081040317	M081060317	M081080317	M081100317	M081125317	-
31.5	12	M081250318	M081040318	M081060318	M081080318	M081100318	M081125318	-
35.5	14	M081250319	M081040319	M081060319	M081080319	M081100319	M081125319#	
40.0	16	M081250320	M081040320	M081060320	M081080320#	M081100320	M081125320#	-

AQUASAFE SOLVENT FITTED PIPES

FOR AGRICULTURE & WATER SUPPLY, CONFORMING TO IS:4985



5 METRE PIPE

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code (2.5 kgf/cm²)	Product Code (4 kgf/cm²)	Product Code (6 kgf/cm²)	Product Code (8 kgf/cm²)	Product Code (10 kgf/cm²)	Product Code (12.5 kgf/cm²)	Product Code (Plumbing)
2.0	½	-	-	-	-	M081100501	M081125501	M081160501
2.5	¾	-	-	-	M081080502	M081100502	M081125502	M081160502
3.2	1	-	-	-	M081080503	M081100503	M081125503	M081160503
4.0	1¼	-	-	M081060504	M081080504	M081100504	M081125504	M081160504
5.0	1½	-	-	M081060505	M081080505	M081100505	M081125505	M081160505
6.3	2	-	M081040506	M081060506	M081080506	M081100506	M081125506	-
7.5	2½	-	M081040507	M081060507	M081080507	M081100507	M081125507#	-
9.0	3	M081250508	M081040508	M081060508	M081080508	M081100508	M081125508	-
11.0	4	M081250509	M081040509	M081060509	M081080509	M081100509	M081125509	-
12.5	4½	M081250510	M081040510	M081060510	M081080510	M081100510	M081125510	-
14.0	5	M081250511	M081040511	M081060511	M081080511	M081100511	M081125511	-
16.0	6	M081250512	M081040512	M081060512	M081080512	M081100512	M081125512	-
18.0	7	M081250513	M081040513	M081060513	M081080513	M081100513	M081125513	-
20.0	8	M081250514	M081040514	M081060514	M081080514	M081100514	M081125514	-
22.5	9	M081250515	M081040515	M081060515	M081080515	M081100515	M081125515	-
25.0	10	M081250516	M081040516	M081060516	M081080516	M081100516	M081125516	-
28.0	11	M081250517	M081040517	M081060517	M081080517	M081100517	M081125517	-
31.5	12	M081250518	M081040518	M081060518	M081080518	M081100518	M081125518	-
35.5	14	M081250519	M081040519	M081060519	M081080519	M081100519	M081125519#	-
40.0	16	M081250520	M081040520	M081060520	M081080520	M081100520	M081125520#	-



6 METRE PIPE

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code (2.5 kgf/cm²)	Product Code (4 kgf/cm²)	Product Code (6 kgf/cm²)	Product Code (8 kgf/cm²)	Product Code (10 kgf/cm²)	Product Code (12.5 kgf/cm²)	Product Code (Plumbing)
2.0	½	-	-	-	-	M081100601	M081125601	M081160601
2.5	¾	-	-	-	M081080602	M081100602	M081125602	M081160602
3.2	1	-	-	-	M081080603	M081100603	M081125603	M081160603
4.0	1¼	-	-	M081060604	M081080604	M081100604	M081125604	M081160604
5.0	1½	-	-	M081060605	M081080605	M081100605	M081125605	M081160605
6.3	2	-	M081040606	M081060606	M081080606	M081100606	M081125606	-
7.5	2½	-	M081040607	M081060607	M081080607	M081100607	M081125607	-
9.0	3	M081250608	M081040608	M081060608	M081080608	M081100608	M081125608	-
11.0	4	M081250609	M081040609	M081060609	M081080609	M081100609	M081125609	-
12.5	4½	M081250610	M081040610	M081060610	M081080610	M081100610	M081125610	-
14.0	5	M081250611	M081040611	M081060611	M081080611	M081100611	M081125611	-
16.0	6	M081250612	M081040612	M081060612	M081080612	M081100612	M081125612	-
18.0	7	M081250613	M081040613	M081060613	M081080613	M081100613	M081125613	-
20.0	8	M081250614	M081040614	M081060614	M081080614	M081100614	M081125614	-
22.5	9	M081250615	M081040615	M081060615	M081080615	M081100615	M081125615	-
25.0	10	M081250616	M081040616	M081060616	M081080616	M081100616	M081125616	-
28.0	11	M081250617	M081040617	M081060617	M081080617	M081100617	M081125617	-
31.5	12	M081250618	M081040618	M081060618	M081080618	M081100618	M081125618	-
35.5	14	M081250619	M081040619	M081060619	M081080619	M081100619	M081125619#	-
40.0	16	M081250620	M081040620	M081060620	M081080620	M081100620	M081125620#	



6 M STRAINER PIPE (6 kg)

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code
12.5	4½	M081060610TS
14.0	5	M081060611TS
16.0	6	M081060612TS
18.0	7	M081060613TS
20.0	8	M081060614TS
22.5	9	M081060615TS
25.0	10	M081060616TS



6 M STRAINER PIPE (8 kg)

HSN CODE: 39172390

Size (cm)	**Size (inch)**	**Product Code**
16.0	**6**	**M081080612TS**



6 M STRAINER PIPE (10 kg)

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code
12.5	4½	M081100610TS
16.0	6	M081100612TS

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS



TEE (LW)

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	M092040106	-	96
7.5	2½	M092040107	-	60
9.0	3	M092040108	-	36
11.0	4	M092040109	-	20
16.0	6	M092040112	-	05
20.0	8	M092040114	-	03



ELBOW 90° (LW)

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	M092040506	-	100
7.5	2½	M092040507	-	65
9.0	3	M092040508	-	48
11.0	4	M092040509	-	20
16.0	6	M092040512	-	06
20.0	8	M092040514	-	03

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (4 KGF/CM²)

ASTRAL AquaSAFE®



ELBOW 90°

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	M092040505	15	105
6.3	2	M092040506I	-	100
7.5	2½	M092040507I	-	60
9.0	3	M092040508I	-	38
11.0	4	M092040509I	-	20
14.0	5	M092040511	-	12
16.0	6	M092040512I	-	06



ELBOW 45°

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
11.0	4	M092042309	-	24
14.0	5	M092042311	-	12
16.0	6	M092042312	-	08
20.0	8	M092042314	-	03



REDUCER COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
14.0 x 7.5	5 x 2½	M092044197	-	22
14.0 x 9.0	5 X 3	M092044198	-	22
14.0 x 11.0	5 x 4	M092044160	-	20
16.0 x 9.0	6 x 3	M092044172	-	12
16.0 x 11.0	6 x 4	M092044131	-	12
16.0 x 14.0	6 x 5	M092044159	-	12
20.0 x 11.0	8 x 4	M092044146	-	08
20.0 x 16.0	8 x 6	M092044147	-	08



TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	M092040105	10	70
6.3	2	M092040106I	-	80
7.5	2½	M092040107I	-	60
9.0	3	M092040108I	-	36
11.0	4	M092040109I	-	20
14.0	5	M092040111	-	08
16.0	6	M092040112I	-	06



REDUCER TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
7.5 x 6.3	2½ x 2	M092040236	-	60
9.0 x 6.3	3 x 2	M092040261	-	46
9.0 x 7.5	3 x 2½	M092040230	-	40
11.0 x 7.5	4 x 2½	M092040229	-	24
11.0 x 9.0	4 x 3	M092040243	-	18
16.0 x 7.5	6 x 2½	M092040235	-	10
16.0 x 11.0	6 x 4	M092040231	-	08



END CAP

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	M092042906	-	115
7.5	2½	M092042907	-	136
9.0	3	M092042908	-	75
11.0	4	M092042909	-	75
14.0	5	M092042911	-	32
18.0	7	M092042913	-	18

For ISI marked fittings, kindly consult Astral Representative.

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (6 KGF/CM²)



COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092061004	35	280
5.0	1½	M092061005	25	150
6.3	2	M092061006	-	112
7.5	2½	M092061007	-	96
9.0	3	M092061008	-	60
11.0	4	M092061009	-	36
14.0	5	M092061011	-	16
16.0	6	M092061012	-	10
20.0	8	M092061014	-	12
25.0	10	M092061016	-	02



ELBOW 90°

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092060504	30	180
5.0	1½	M092060505	15	105
6.3	2	M092060506	-	63
7.5	2½	M092060507	-	60
9.0	3	M092060508	-	38
11.0	4	M092060509	-	20
14.0	5	M092060511	-	12
16.0	6	M092060512	-	06
18.0	7	M092060513	-	04
20.0	8	M092060514	-	03
25.0	10	M092060516	-	02
31.5	12	M092060518	-	01



ELBOW 45°

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092062304	30	150
5.0	1½	M092062305	15	120
6.3	2	M092062306	-	70
7.5	2½	M092062307	-	80
9.0	3	M092062308	-	42
11.0	4	M092062309	-	24
16.0	6	M092062312	-	08
20.0	8	M092062314	-	03
25.0	10	M092062316	-	02



REDUCER ELBOW

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
7.5 x 6.3	2½ x 2	M092060636	-	32
9.0 x 5.0	3 x 1½	M092060662	-	24
9.0 x 6.3	3 x 2	M092060661	-	42
11.0 x 6.3	4 x 2	M092060632	-	24
11.0 x 7.5	4 x 2½	M092060629	-	20
11.0 x 9.0	4 x 3	M092060643	-	10



THREADED ELBOW 90°

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3 x 2	M092060806	-	64
7.5 x 2	M092060807	-	36
7.5 x 2½	M092060815	-	24
9.0 x 3	M092060808	-	14
11.0 x 4	M092060809	-	08



TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092060104	15	120
5.0	1½	M092060105	10	70
6.3	2	M092060106	-	80
7.5	2½	M092060107	-	60
9.0	3	M092060108	-	36
11.0	4	M092060109	-	20
14.0	5	M092060111	-	08
16.0	6	M092060112	-	05
18.0	7	M092060113	-	04
20.0	8	M092060114	-	03
25.0	10	M092060116	-	01
31.5	12	M092060118	-	01



ENLARGE TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3 x 7.5	2 x 2½	M092065036	-	51



CROSS TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092062404	-	65
6.3	2	M092062406	-	55
7.5	2½	M092062407	-	28
9.0	3	M092062408	-	18
11.0	4	M092062409	-	13



REDUCER CROSS TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x 2.0	1¼ x ½	M092064793	-	75
4.0 x 2.5	1¼ x ¾	M092064792	-	75
4.0 x 3.2	1¼ x 1	M092064791	-	75
6.3 x 2.0	2 x ½	M092064763	-	84
6.3 x 2.5	2 x ¾	M092064764	-	105
6.3 x 3.2	2 x 1	M092064765	-	100
6.3 x 4.0	2 x 1¼	M092064740	-	75
6.3 x 5.0	2 x 1½	M092064739	-	60
7.5 x 5.0	2½ x 1½	M092064737	-	43
7.5 x 6.3	2½ x 2	M092064736	-	40

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (6 KGF/CM²)



SINGLE 'Y' (TEE 45°)

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092063804	-	65
5.0	1½	M092063805	-	66
6.3	2	M092063806	-	36
7.5	2½	M092063807	-	33
9.0	3	M092063808	-	24
11.0	4	M092063809	-	14
14.0	5	M092063811	-	06
16.0	6	M092063812	-	04
20.0	8	M092063814	-	02
25.0	10	M092063816	-	01



REDUCER Y

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
11.0 x 6.3	4 x 2	M092064032	-	21
16.0 x 11.0	6 x 4	M092064031	-	06



REDUCER MAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
7.5 x 1½	M092064837	-	70
9.0 x 2	M092064861	-	40
9.0 x 2½	M092064830	-	40



MAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x 1¼	M092061304	50	350
5.0 x 1½	M092061305	30	210
6.3 x 2	M092061306	-	192
7.5 x 2½	M092061307	-	120
9.0 x 3	M092061308	-	72
11.0 x 4	M092061309	-	45
14.0 x 5	M092061311	-	26
16.0 x 6	M092061312	-	16



FAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x 1¼	M092061604	40	280
5.0 x 1½	M092061605	30	180
6.3 x 2	M092061606	-	70
7.5 x 2½	M092061607	-	112
9.0 x 3	M092061608	-	72
11.0 x 4	M092061609	-	42
14.0 x 5	M092061611	-	18
16.0 x 6	M092061612	-	14



REDUCER FAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x ¾	M092064692	25	250
4.0 x 1	M092064691	50	300
5.0 x 1	M092064605	25	125
6.3 x 1¼	M092064640	-	100
7.5 x 1½	M092064637	-	120
7.5 x 2	M092064636	-	60
9.0 x 1½	M092064662	-	44
9.0 x 2	M092064661	-	40
9.0 x 2½	M092064630	-	45
11.0 x 1½	M092064644	-	24
11.0 x 3	M092064643	-	33



END CAP

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	M092062904	70	560
5.0	1½	M092062905	50	350
6.3	2	M092062906	-	240
7.5	2½	M092062907	-	136
9.0	3	M092062908	-	75
11.0	4	M092062909	-	75
14.0	5	M092062911	-	32
16.0	6	M092062912	-	28
18.0	7	M092062913	-	15
20.0	8	M092062914	-	11
25.0	10	M092062916	-	02
31.5	12	M092062918	-	03



THREADED END CAP

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x 1¼	M092064504	50	300
5.0 x 1½	M092064505	50	250
6.3 x 2	M092064506	-	168
7.5 x 2½	M092064507	-	84
9.0 x 3	M092064508	-	55
11.0 x 4	M092064509	-	66



REDUCER TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0 x 2.5	1½ x ¾	M092060295	15	105
5.0 x 3.2	1½ x 1	M092060294	-	65
6.3 x 4.0	2 x 1¼	M092060240	-	60
6.3 x 5.0	2 x 1½	M092060239	-	30
7.5 x 5.0	2½ x 1½	M092060237	-	80
7.5 x 6.3	2½ x 2	M092060236	-	60
9.0 x 6.3	3 x 2	M092060261	-	36
9.0 x 7.5	3 x 2½	M092060230	-	40
11.0 x 5.0	4 x 1½	M092060244	-	33
11.0 x 6.3	4 x 2	M092060232	-	24
11.0 x 7.5	4 x 2½	M092060229	-	24
11.0 x 9.0	4 x 3	M092060243	-	18
14.0 x 11.0	5 x 4	M092060260	-	12
16.0 x 7.5	6 x 2½	M092060235	-	05
16.0 x 9.0	6 x 3	M092060272	-	08
16.0 x 11.0	6 x 4	M092060231	-	08
20.0x16.0	8 x 6	M092060247	-	04

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (6 KGF/CM²)



THREADED TEE

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3 x 2	M092060406	-	25
7.5 x 2½	M092060415	-	18
9.0 x 3	M092060408	-	10
11.0 x 2	M092060409	-	09
11.0 x 2½	M092060417	-	21
11.0 x 3	M092060418	-	18
11.0 x 4	M092060419	-	10



REDUCER BUSH (SPG X SOC)

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x 2.5	1¼ x ¾	M092061992	100	400
4.0 x 3.2	1¼ x 1	M092061991	100	700
5.0 x 3.2	1½ x 1	M092061994	50	400
5.0 x 4.0	1½ x 1¼	M092061941	50	350
6.3 x 4.0	2 x 1¼	M092061940	-	150
6.3 x 5.0	2 x 1½	M092061939	-	150
7.5 x 4.0	2½ x 1¼	M092061938	-	90
7.5 x 5.0	2½ x 1½	M092061937	-	90
7.5 x 6.3	2½ x 2	M092061936	-	170
9.0 x 5.0	3 x 1½	M092061962	-	48
9.0 x 6.3	3 x 2	M092061961	-	48
9.0 x 7.5	3 x 2½	M092061930	-	48
11.0 x 6.3	4 x 2	M092061932	-	60
11.0 x 7.5	4 x 2½	M092061929	-	60
11.0 x 9.0	4 x 3	M092061943	-	60
14.0 x 11.0	5 x 4	M092061960	-	28
16.0 x 11.0	6 x 4	M092061931	-	18
20.0 x 16.0	8 x 6	M092061947	-	04
25.0 x 16.0	10 x 6	M092061949	-	04
25.0 x 20.0	10 x 8	M092061950	-	03



THREADED REDUCER BUSH

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
7.5 x 2	M092065207	-	88
9.0 x 2½	M092065216	-	52



REDUCER COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0 x 2.5	1¼ x ¾	M092061192	50	300
4.0 x 3.2	1¼ x 1	M092061191	50	350
5.0 x 3.2	1½ x 1	M092061194	30	210
5.0 x 4.0	1½ x 1¼	M092061141	25	150
6.3 x 3.2	2 x 1	M092061165	-	140
6.3 x 4.0	2 x 1¼	M092061140	-	120
6.3 x 5.0	2 x 1½	M092061139	-	125
7.5 x 4.0	2½ x 1¼	M092061138	-	70
7.5 x 5.0	2½ x 1½	M092061137	-	154
7.5 x 6.3	2½ x 2	M092061136	-	70
9.0 x 5.0	3 x 1½	M092061162	-	80
9.0 x 6.3	3 x 2	M092061161	-	84
9.0 x 7.5	3 x 2½	M092061130	-	80
11.0 x 5.0	4 x 1½	M092061144	-	60
11.0 x 6.3	4 x 2	M092061132	-	60
11.0 x 7.5	4 x 2½	M092061129	-	42
11.0 x 9.0	4 x 3	M092061143	-	42
14.0 x 11.0	5 x 4	M092064160	-	18
16.0 x 11.0	6 x 4	M092061131	-	10
16.0 x 14.0	6 x 5	M092064159	-	12
18.0 x 11.0	7 x 4	M092064185	-	12
20.0 x 11.0	8 x 4	M092064146	-	08
20.0 x 16.0	8 x 6	M092064147	-	10
20.0 x 18.0	8 x 7	M092064148	-	08
25.0 x 20.0	10 x 8	M092061150	-	02



SERVICE SADDLE

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0 x ½	M092064296	-	60
5.0 x ¾	M092064295	-	60
5.0 x 1	M092064294	-	60
6.3 x ½	M092064263	-	52
6.3 x ¾	M092064264	-	52
6.3 x 1	M092064265	-	52
7.5 x ½	M092064266	-	36
7.5 x ¾	M092064267	-	36
7.5 x 1	M092064268	-	36
9.0 x ½	M092064269	-	32
9.0 x ¾	M092064270	-	26
9.0 x 1	M092064271	-	26
11.0 x ½	M092064273	-	24
11.0 x ¾	M092064274	-	24
11.0 x 1	M092064275	-	24
14.0 x ½	M092064276	-	18
14.0 x ¾	M092064277	-	18
14.0 x 1	M092064278	-	18
16.0 x ½	M092064279	-	14
16.0 x ¾	M092064280	-	14
16.0 x 1	M092064281	-	14
20.0 x 1	M092064286	-	08
20.0 x 1¼	M092064287	-	08
20.0 x 1½	M092064288	-	08
20.0 x 2	M092064289	-	08



SERVICE SADDLE BOTH SIDE THREADED

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
9.0 x ¾	M092064970	-	26
9.0 x 1	M092064971	-	26



FLANGE WITH FIX ADAPTOR

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	M092063206	-	30
7.5	2½	M092063207	-	20
9.0	3	M092063208	-	14
11.0	4	M092063209	-	10



FLANGE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	M092063506	-	100
7.5	2½	M092063507	-	72
9.0	3	M092063508	-	63
11.0	4	M092063509	-	35



TAIL PIECE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	M092064206	-	105
7.5	2½	M092063607	-	60
9.0	3	M092063608	-	70
11.0	4	M092063609	-	42
14.0	5	M092063611	-	12
16.0	6	M092063612	-	14
20.0	8	M092063614	-	06

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (10 KGF/CM²)



COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0	½	M092101001	100	800
2.5	¾	M092101002	100	500
3.2	1	M092101003	50	450
4.0	1¼	M092101004	35	280
5.0	1½	M092101005	25	150
6.3	2	M092101006	-	112
7.5	2½	M092101007	-	96
9.0	3	M092101008	-	60
11.0	4	M092101009	-	36
16.0	6	M092101012	-	10



ELBOW 90°

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0	½	M092100501	100	700
2.5	¾	M092100502	100	400
3.2	1	M092100503	50	350
4.0	1¼	M092100504	25	200
5.0	1½	M092100505	15	105
6.3	2	M092100506	-	84
7.5	2½	M092100507	-	60
9.0	3	M092100508	-	32
11.0	4	M092100509	-	20
16.0	6	M092100512	-	06



REDUCER COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x 2.0	¾ x ½	M092101142	150	750
3.2 x 2.0	1 x ½	M092101157	100	700
3.2 x 2.5	1 x ¾	M092101158	100	600



THREADED ELBOW

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0 x ½	M092100811	100	600
2.5 x ½	M092100812	100	400
2.5 x ¾	M092100814	50	600
3.2 x ½	M092100813	50	450



REDUCER ELBOW

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
3.2 x 2.5	1 x ¾	M092100658	50	400



ELBOW 45°

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0	½	M092102301	100	700
2.5	¾	M092102302	100	400
3.2	1	M092102303	50	350



TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0	½	M092100101	100	700
2.5	¾	M092100102	50	400
3.2	1	M092100103	25	200
4.0	1¼	M092100104	15	120
5.0	1½	M092100105	10	70
6.3	2	M092100106	-	48
7.5	2½	M092100107	-	42
9.0	3	M092100108	-	25
11.0	4	M092100109	-	15
16.0	6	M092100112	-	05



REDUCER TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x 2.0	¾ x ½	M092100242	60	420
3.2 x 2.0	1 x ½	M092100257	30	270
3.2 x 2.5	1 x ¾	M092100258	30	240
4.0 x 2.5	1¼ x ¾	M092100292	25	150
4.0 x 3.2	1¼ x 1	M092100291	20	140
6.3 x 2.5	2 x ¾	M092100264	-	75
6.3 x 3.2	2 x 1	M092100265	-	70
6.3 x 5.0	2 x 1½	M092100239	-	56



THREADED TEE

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0 x ½	M092100411	100	400
2.5 x ½	M092100412	50	400
2.5 x ¾	M092100414	50	250
3.2 x ½	M092100413	30	270



MAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0 x ½	M092101301	150	1050
2.5 x ¾	M092101302	150	600
3.2 x 1	M092101303	50	550
6.3 x 2	M092101306	-	100
7.5 x 2½	M092101307	-	80
9.0 x 3	M092101308	-	60
11.0 x 4	M092101309	-	42



REDUCER FAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x ½	M092104642	100	600
3.2 x ½	M092104657	60	540
3.2 x ¾	M092104658	60	540
4.0 x ¾	M092104692	50	250
4.0 x 1	M092104691	50	250

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (10 KGF/CM²)



FAPT

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0 x ½	M092101601	100	1200
2.5 x ¾	M092101602	125	500
3.2 x 1	M092101603	50	500
6.3 x 2	M092101606	-	112
7.5 x 2½	M092101607	-	48
9.0 x 3	M092101608	-	45
11.0 x 4	M092101609	-	39



END CAP

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0	½	M092102901	150	1200
2.5	¾	M092102902	100	1500
3.2	1	M092102903	100	800



THREADED END CAP

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0 x ½	M092104501	200	1400
2.5 x ¾	M092104502	200	1000
3.2 x 1	M092104503	125	875



REDUCER BUSH

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x 2.0	¾ x ½	M092101942	200	1600
3.2 x 2.0	1 x ½	M092101957	100	1100
3.2 x 2.5	1 x ¾	M092101958	100	1200



FLANGE WITH FIX ADAPTOR

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
16.0	6	M092103212	-	08

AQUASAFE SOLVENT FITTED
MOULDED FITTINGS (16 KGF/CM²)



REDUCER BRASS TEE

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x ½	M062160369	25	75
3.2 x ½	M0621603109	25	75



REDUCER BRASS COUPLER

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x ½	M062161269	-	150
3.2 x ½	M0621612109	-	150



REDUCER BRASS ELBOW

HSN CODE: 39174000

Size (cm x inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.5 x ½	M062160769	-	100
3.2 x ½	M0621607109	-	100

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (2.5 KGF/CM²)

FABRICATED SINGLE 'Y'

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
31.5	12	F092002518Y	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (4 KGF/CM²)

FABRICATED COUPLER
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092041006	-	70
7.5	2½	F092041007	-	40
9.0	3	F092041008	-	30
11.0	4	F092041009	-	15
14.0	5	F092041011	-	08
16.0	6	F092041012	-	06
18.0	7	F092041013	-	01
20.0	8	F092041014	-	01
22.5	9	F092041015	-	01
25.0	10	F092041016	-	01
31.5	12	F092041018	-	01
40.0	16	F092041020	-	01

FABRICATED REPAIR COUPLER (ESR)
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092041006E	-	01
7.5	2½	F092041007E	-	01
9.0	3	F092041008E	-	01
11.0	4	F092041009E	-	01
18.0	7	F092041013E	-	01
20.0	8	F092041014E	-	01
22.5	9	F092041015E	-	01
25.0	10	F092041016E	-	01

FABRICATED END CAP
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
31.5	12	F092042914	-	01

FABRICATED BEND 90°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092040506	-	23
7.5	2½	F092040507	-	13
9.0	3	F092040508	-	06
11.0	4	F092040509	-	04
14.0	5	F092040511	-	01
16.0	6	F092040512	-	01
18.0	7	F092040513	-	01
20.0	8	F092040514	-	01
22.5	9	F092040515	-	01
25.0	10	F092040516	-	01
28.0	11	F092040517	-	01
31.5	12	F092040518		01

FABRICATED BEND 45°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092044306	-	25
7.5	2½	F092044307	-	15
9.0	3	F092044308	-	13
11.0	4	F092044309	-	08
14.0	5	F092044311	-	04
16.0	6	F092044312	-	01
18.0	7	F092044313	-	01
20.0	8	F092044314	-	01
22.5	9	F092044315	-	01
25.0	10	F092044316	-	01
31.5	12	F092044318	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

FABRICATED SINGLE 'Y'

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
31.5	12	F092000418Y	-	01

FABRICATED REDUCER TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
20.0 x 11.0	8 x 4	F092040914T	-	01
20.0 x 16.0	8 x 6	F092041214T	-	01

FABRICATED REDUCER COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
14.0x12.5	4	F092041011R	-	01

FABRICATED DOUBLE 'Y'

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
16.0	6	F092041212Y	-	01

FABRICATED ADAPTOR (ESRXPSS-SOC)

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
20.0 x 20.0	8 x 8	F092041414EA	-	01
25.0 x 25.0	10 x 10	F092041616EA	-	01
31.5 x 31.5	12 x 12	F092041818EA	-	01

FABRICATED TEE

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
12.5	4½	F09200410T	-	01
18.0	7	F09200413T	-	01
25.0	10	F09200416T	-	01
28.0	11	F09200417T	-	01
31.5	12	F09200418T	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (6 KGF/CM²)

FABRICATED COUPLER
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092061006	-	70
7.5	2½	F092061007	-	40
9.0	3	F092061008	-	30
11.0	4	F092061009	-	15
12.5	4½	F092061010#	-	01
14.0	5	F092061011	-	08
16.0	6	F092061012	-	06
18.0	7	F092061013	-	01
20.0	8	F092061014	-	01
22.5	9	F092061015	-	01
25.0	10	F092061016	-	01
28.0	11	F092061017	-	01
31.5	12	F092061018	-	01
40.0	16	F092061020#	-	01

FABRICATED CROSS TEE
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
14.0	5	F092060011CT	-	01
16.0	6	F092060012CT	-	01
20.0	8	F092060014CT#	-	01

FABRICATED TEE
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
12.5	4½	F09200610T	-	01
14.0	5	F092060111	-	01
18.0	7	F09200613T	-	01
22.5	9	F09200615T	-	01
25.0	10	F09200616T	-	01
28.0	11	F09200617T	-	01

FABRICATED LONG BEND 90°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	F092060504	-	50
5.0	1½	F092060505	-	40
6.3	2	F092060506	-	23
7.5	2½	F092060507	-	13
9.0	3	F092060508	-	06
11.0	4	F092060509	-	04
12.5	4½	F092060510	-	01
14.0	5	F092060511	-	01
16.0	6	F092060512	-	01
18.0	7	F092060513	-	01
20.0	8	F092060514	-	01
22.5	9	F092060515	-	01
25.0	10	F092060516	-	01
28.0	11	F092060517	-	01
31.5	12	F092060518	-	01

FABRICATED BEND 22.5°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
9.0	3	F092560508	-	01

FABRICATED BEND 30°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
16.0	6	F092064212	-	01

FABRICATED TAIL PIECE
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	F092060505TP#	-	01
12.5	4½	F092061010TP	-	01
18.0	7	F092061013TP	-	01
22.5	9	F092061015TP	-	01
25.0	10	F092061016TP	-	01
28.0	11	F092061017TP	-	01
31.5	12	F092061018TP	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

FABRICATED REDUCER TEE
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
11.0x5.0	4x1½	F091060244	-	01
12.5x5.0	4½x1½	F092060510T	-	01
12.5x11.0	4½x4	F092060910T#	-	01
14.0x5.0	5x1½	F092060511T	-	01
14.0x9.0	5x3	F092060811T	-	01
14.0x12.5	5x4½	F092061011T	-	01
16.0x5.0	6x1½	F092060512T	-	01
16.0x12.5	6x4½	F092061012T	-	01
16.0x14.0	6x5	F092061112T	-	01
18.0x5.0	7x1½	F092060513T	-	01
18.0x11.0	7x4	F092060913T	-	01
18.0x12.5	7x4½	F092061013T	-	01
18.0x14.0	7x5	F092061113T	-	01
18.0x16.0	7x6	F092061213T	-	01
20.0x5.0	8x1½	F092060514T	-	01
20.0x11.0	8x4	F092060914T	-	01
20.0x12.5	8x4½	F092061014T	-	01
20.0x14.0	8x5	F092061114T	-	01
20.0x16.0	8x6	F092061214T	-	01
20.0x18.0	8x7	F092061314T	-	01
22.5x5.0	9x1½	F092060515T	-	01
22.5x9.0	9x3	F092060815T	-	01
22.5x11.0	9x4	F092060915T	-	01
22.5x12.5	9x4½	F092061015T	-	01
22.5x14.0	9x5	F092061115T	-	01
22.5x16.0	9x6	F092061215T	-	01
22.5x18.0	9x7	F092061315T	-	01
22.5x20.0	9x8	F092061415T	-	01
25.0x5.0	10x1½	F092060516T	-	01
25.0x9.0	10x3	F092060816T	-	01
25.0x11.0	10x4	F092060916T	-	01
25.0x12.5	10x4½	F092061016T	-	01
25.0x14.0	10x5	F092061116T	-	01
25.0x18.0	10x7	F092061316T	-	01
25.0x16.0	10x6	F092061216T	-	01
25.0x20.0	10x8	F092061416T	-	01
25.0x22.5	10x9	F092061516T	-	01
28.0x5.0	11x1½	F092060517T	-	01
28.0x9.0	11x3	F092060817T	-	01
28.0x11.0	11x4	F092060917T	-	01
28.0x12.5	11x4½	F092061017T	-	01

FABRICATED REDUCER TEE
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
28.0x14.0	11x5	F092061117T	-	01
28.0x16.0	11x6	F092061217T	-	01
28.0x18.0	11x7	F092061317T	-	01
28.0x20.0	11x8	F092061417T	-	01
28.0x22.5	11x9	F092061517T	-	01
28.0x25.0	11x10	F092061617T	-	01
31.5x5.0	12x1½	F092060518T	-	01
31.5x9.0	12x3	F092060818T	-	01
31.5x11.0	12x4	F092060918T	-	01
31.5x12.5	12x1½	F092061018T	-	01
31.5x14.0	12x5	F092061118T	-	01
31.5x16.0	12x6	F092061218T	-	01
31.5x18.0	12x7	F092061318T	-	01
31.5x20.0	12x8	F092061418T	-	01
31.5x22.5	12x9	F092061518T	-	01
31.5x25.0	12x10	F092061618T	-	01
31.5x28.0	12x11	F092061718T	-	01

FABRICATED BEND 45°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092064306	-	25
7.5	2½	F092064307	-	15
9.0	3	F092064308	-	13
11.0	4	F092064309	-	08
12.5	4½	F092064310	-	01
14.0	5	F092064311	-	04
16.0	6	F092064312	-	01
18.0	7	F092064313	-	01
20.0	8	F092064314	-	01
22.5	9	F092064315	-	01
25.0	10	F092064316	-	01
28.0	11	F092064317	-	01
31.5	12	F092064318	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

FABRICATED REDUCER COUPLER

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
12.5x9.0	4½x3	F092060910R	-	01
12.5x11.0	4½x4	F092060810R	-	01
14.0x 6.3	5x2	F092060611R	-	01
14.0x7.5	5x2½	F092060711R	-	01
14.0x9.0	5x3	F092060811R	-	01
14.0x12.5	5x4½	F092061011R	-	01
16.0x9.0	6x3	F092060812R	-	01
16.0x12.5	6x4½	F092061012R	-	01
18.0x6.3	7x2	F092060613R	-	01
18.0x14.0	7x5	F092061113R	-	01
18.0x16.0	7x6	F092061213R	-	01
20.0x6.3	8x2	F092060614R	-	01
20.0x7.5	8x2½	F092060714R	-	01
20.0x12.5	8x4	F092060914R	-	01
20.0x18.0	8x7	F092061014R	-	01
22.5x14.0	9x5	F092061314R	-	01
20.0x11.0	8x4	F092061115R	-	01
25.0x14.0	10x5	F092061116R	-	01
22.5x16.0	9x6	F092061215R	-	01
22.5x18.0	9x7	F092061315R	-	01
22.5x20.0	9x8	F092061415R	-	01
25.0x11.0	10x4	F092060916R	-	01
25.0x16.0	10x6	F092061216R	-	01
25.0x18.0	10x7	F092061316R	-	01
25.0x22.5	10x9	F092061516R	-	01
28.0X16.0	11x6	F092061217R	-	01
28.0x16.0	11x6	F092061317R	-	01
25.0x20.0	10x8	F092061416R	-	01
28.0x20.0	11x8	F092061417R	-	01
28.0x22.5	11x9	F092061517R	-	01
28.0x25.0	11x10	F092061617R	-	01
31.5x12.5	12x1½	F092061018R	-	01
31.5x140	12x5	F092061118R	-	01
31.5x18.0	12x7	F092061318R	-	01
31.5x22.5	12x9	F092061518R	-	01
31.5x16.0	12x6	F092061218R	-	01
31.5x20.0	12x8	F092061418R	-	01
31.5x25.0	12x9	F092061618R	-	01
31.5x28.0	12x11	F092061718R	-	01

FABRICATED ADAPTOR

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
11.0 x 4.0	4 x 1¼	F092060409A	-	01

FABRICATED REDUCER 'Y'

HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
7.5x6.3	2½x2	F092060607Y#	-	01
14.0x11.0	5x4	F092060911Y	-	01
16.0x11.0	6x4	F092060912Y	-	01
16.0x12.5	6x4½	F092061012Y	-	01
16.0x14.0	6x5	F092061112Y	-	01
18.0x11.0	7x4	F092060913Y	-	01
18.0x12.5	7x4½	F092061013Y	-	01
18.0x14.0	7x5	F092061113Y	-	01
20.0x7.5	8x2½	F092060714Y	-	01
20.0x11.0	8x4	F092060914Y	-	01
20.0x12.5	8x4½	F092061014Y	-	01
20.0x14.0	8x5	F092061114Y	-	01
20.0x16.0	8x6	F092061214Y	-	01
22.5x11.0	9x4	F092060915Y	-	01
22.5x12.5	9x4½	F092061015Y#	-	01
22.5x14.0	9x5	F092061115Y	-	01
22.5x16.0	9x6	F092061215Y#	-	01
22.5x18.0	9x7	F092061315Y#	-	01
25.0x11.0	10x4	F092060916Y	-	01
25.0x12.5	10x4½	F092061016Y#	-	01
25.0x14.0	10x5	F092061116Y	-	01
25.0x16.0	10x6	F092061216Y	-	01
25.0x18.0	10x7	F092061316Y	-	01
25.0x20.0	10x8	F092061416Y	-	01
25.0x22.5	10x9	F092061516Y	-	01
28.0x11.0	11x4	F092060917Y	-	01
28.0x12.5	11x4½	F092061017Y	-	01
28.0x14.0	11x5	F092061117Y	-	01
28.0x 16.0	11x6	F092061217Y	-	01
28.0x20.0	11x8	F092061417Y	-	01
31.5x11.0	12x4	F092060918Y	-	01
31.5x12.5	12x4½	F092061018Y	-	01
31.5x14.0	12x5	F092061118Y	-	01
31.5x16.0	12x6	F092061218Y	-	01
31.5x18.0	12x7	F092061318Y	-	01
31.5x20.0	12x8	F092061418Y	-	01
31.5x22.5	12x9	F092061518Y	-	01
31.5x25.0	12x10	F092061618Y	-	01
31.5x28.0	12x11	F092061718Y	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (6 KGF/CM²)

FABRICATED DOUBLE 'Y'
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
11.0	4	F092060009DY	-	01
14.0	5	F092060011DY	-	01
16.0	6	F092061212Y	-	01
20.0	8	F092060014DY#	-	01

FABRICATED COUPLER (ESR)
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092061006E	-	01
7.5	2½	F092061007E	-	01
9.0	3	F092061008E	-	01
11.0	4	F092061009E	-	01
22.5	9	F092061015E	-	01
25.0	10	F092061016E	-	01
31.5	12	F092061018E	-	01
35.5	14	F092061019E	-	01
40.0	16	F092061020E	-	01

FABRICATED SINGLE 'Y'
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
12.5	4½	F092060010Y	-	01
16.0	6	F092060012Y#	-	01
20.0	8	F092060014Y	-	01
22.5	9	F092060015Y	-	01
25.0	10	F092060016Y	-	01
28.0	11	F092060017Y	-	01
31.5	12	F092060018Y	-	01

FABRICATED END CAP
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
28.0	11	F092062917	-	01

FABRICATED HEIGHT RISER
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
7.5 x 4.0	2½ x 1¼	F092060407HR	-	01

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (8 KGF/CM²)

FABRICATED LONG BEND 90°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	F092080505	-	01
22.5	9	F092080515	-	01

FABRICATED TEE
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	F09200805T	-	01
11.0	4	F09200809T	-	01
22.5	9	F09200815T	-	01

FABRICATED COUPLER
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	F092081005	-	01
11.0	4	F092081009	-	01
22.5	9	F092081015	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (10 KGF/CM²)

FABRICATED COUPLER
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
4.0	1¼	F092101004	-	50
5.0	1½	F092101005	-	40
6.3	2	F092101006	-	70
7.5	2½	F092101007	-	40
9.0	3	F092101008	-	30
11.0	4	F092101009	-	15
14.0	5	F092101011	-	08
16.0	6	F092101012	-	06
18.0	7	F092101013	-	01
20.0	8	F092101014	-	01
22.5	9	F092101015	-	01
25.0	10	F092101016	-	01
31.5	12	F092101018	-	01
40.0	16	F182105220	-	01

FABRICATED BEND 45°
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092104306	-	25
7.5	2½	F092104307	-	15
9.0	3	F092104308	-	13
11.0	4	F092104309	-	08

FABRICATED REDUCER 'Y'
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
16.0 x 11.0	6 x 4	F092100912Y	-	25
16.0 x16.0	6 x 6	F092101212Y	-	15
20.0 x 16.0	8 x 6	F092101214Y	-	13

FABRICATED ADAPTOR
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
16.8 x 16.0	6 x 6	F0921016812A	-	01

FABRICATED COUPLER
HSN CODE: 39174000

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	F092101006E	-	01
7.5	2½	F092101007E	-	01
9.0	3	F092101008E	-	01
11.0	4	F092101009E	-	01
12.5	4½	F092101010E	-	01
14.0	5	F092101011E	-	01
16.0	6	F092101012E	-	01
20.0	8	F092101014E	-	01
22.5	9	F092101015E	-	01
25.0	10	F092101016E	-	01
28.0	11	F092101017E	-	01
31.5	12	F092101018E#	-	01
40.0	16	F092101020E	-	01

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

AQUASAFE SOLVENT FITTED
FABRICATED FITTINGS (10 KGF/CM²)

ASTRAL AquaSAFE®

FABRICATED TEE
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
20.0	8	F09201014T	-	01

FABRICATED REDUCER TEE
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0x 2.5	1½x¾	F092010205T	-	01
2.0x6.3	½x2	F092010614T	-	01
2.5x3.2	¾x1	F092010316T	-	01
2.5x5.0	¾x1½	F092010516T	-	01
2.5x2.0	¾x½	F092011416T	-	01

FABRICATED END CAP
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0	1½	F092102905	-	01
2.0	½	F092102914	-	01

FABRICATED TEE
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
16.0X14.0	6 x 5	F092011112R	-	01
18.0X11.0	7 x 4	F092010913R	-	01

RUBBER WASHER FOR SERVICE SADDLE
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
5.0-11.0	1½-4	RM06490003	-	01
14.0-20.0	5-8	RM06490002	-	01

ELASTOMERIC SEALING RUBBER RING
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
6.3	2	RM06400063#	-	01
7.5	2½	RM06400075#	-	01
9.0	3	RM06400090	-	01
11.0	4	RM06400110	-	01
12.5	4½	RM06400125	-	01
14.0	5	RM06400140	-	01
16.0	6	RM06400160	-	01
18.0	7	RM06400180	-	01
20.0	8	RM06400200	-	01
22.5	9	RM06400225	-	01
25.0	10	RM06400250	-	01
28.0	11	RM06400280	-	01
31.5	12	RM06400315	-	01
35.5	14	RM06400355	-	01
40.0	16	RM06400400	-	01

FABRICATED BEND 90°
HSN CODE: 40169320

Size (cm)	Size (inch)	Product Code	Pkg.(Nos.) Std.	Mast.
2.0	½	F092060501	-	200
2.5	¾	F092060502	-	120
3.2	1	F092060503	-	70
4.0	1¼	F092100504	-	50
4.0	1¼	F092100504S	-	50
5.0	1½	F092100505	-	40
6.3	2	F092100506	-	23
7.5	2½	F092100507	-	13
9.0	3	F092100508	-	06
11.0	4	F092100509	-	04
20.0	8	F092100514	-	01

S - Short length bend

Fabricated fittings of other sizes, types and pressure rating are also available upon request.

AQUASAFE PIPES
ELASTOMERIC SEALING RING PIPE



3 M PIPE

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code (4 kgf/cm²)	Product Code (6 kgf/cm²)	Product Code (8 kgf/cm²)	Product Code (10 kgf/cm²)	Product Code (12.5 kgf/cm²)
6.3	2	M261040306	M261060306	M261080306	M261100306	M261125306
7.5	2½	M261040307	M261060307	M261080307	M261100307	M261125307
9.0	3	M261040308	M261060308	M261080308	M261100308	M261125308
11.0	4	M261040309	M261060309	M261080309	M261100309	M261125309
12.5	4½	M261040310	M261060310	M261080310	M261100310	M261125310
14.0	5	M261040311	M261060311	M261080311	M261100311	M261125311
16.0	6	M261040312	M261060312	M261080312	M261100312	M261125312
18.0	7	M261040313	M261060313	M261080313	M261100313	M261125313
20.0	8	M261040314	M261060314	M261080314	M261100314	M261125314
22.5	9	M261040315	M261060315	M261080315	M261100315	M261125315
25.0	10	M261040316	M261060316	M261080316	M261100316	M261125316
28.0	11	M261040317	M261060317	M261080317	M261100317	M261125317
31.5	12	M261040318	M261060318	M261080318	M261100318	M261125318
35.5	14	M261040319	M261060319	-	-	-
40.0	16	M261040320	M261060320	-	-	-



5 M PIPE

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code (4 kgf/cm²)	Product Code (6 kgf/cm²)	Product Code (8 kgf/cm²)	Product Code (10 kgf/cm²)	Product Code (12.5 kgf/cm²)
6.3	2	M261040506	M261060506	M261080506	M261100506	M261125506
7.5	2½	M261040507	M261060507	M261080507	M261100507	M261125507
9.0	3	M261040508	M261060508	M261080508	M261100508	M261125508
11.0	4	M261040509	M261060509	M261080509	M261100509	M261125509
12.5	4½	M261040510	M261060510	M261080510	M261100510	M261125510
14.0	5	M261040511	M261060511	M261080511	M261100511	M261125511
16.0	6	M261040512	M261060512	M261080512	M261100512	M261125512
18.0	7	M261040513	M261060513	M261080513	M261100513	M261125513
20.0	8	M261040514	M261060514	M261080514	M261100514	M261125514
22.5	9	M261040515	M261060515	M261080515	M261100515	M261125515
25.0	10	M261040516	M261060516	M261080516	M261100516	M261125516
28.0	11	M261040517	M261060517	M261080517	M261100517	M261125517
31.5	12	M261040518	M261060518	M261080518	M261100518	M261125518
35.5	14	M261040519	M261060519	-	-	-
40.0	16	M261040520	M261060520	-	-	-



6 M PIPE

HSN CODE: 39172390

Size (cm)	Size (inch)	Product Code (4 kgf/cm²)	Product Code (6 kgf/cm²)	Product Code (8 kgf/cm²)	Product Code (10 kgf/cm²)	Product Code (12.5 kgf/cm²)
6.3	2	M261040606	M261060606	M261080606	M261100606	M261125606
7.5	2½	M261040607	M261060607	M261080607	M261100607	M261125607
9.0	3	M261040608	M261060608	M261080608	M261100608	M261125608
11.0	4	M261040609	M261060609	M261080609	M261100609	M261125609
12.5	4½	M261040610	M261060610	M261080610	M261100610	M261125610
14.0	5	M261040611	M261060611	M261080611	M261100611	M261125611
16.0	6	M261040612	M261060612	M261080612	M261100612	M261125612
18.0	7	M261040613	M261060613	M261080613	M261100613	M261125613
20.0	8	M261040614	M261060614	M261080614	M261100614	M261125614
22.5	9	M261040615	M261060615	M261080615	M261100615	M261125615
25.0	10	M261040616	M261060616	M261080616	M261100616	M261125616
28.0	11	M261040617	M261060617	M261080617	M261100617	M261125617
31.5	12	M261040618	M261060618	M261080618	M261100618	M261125618
35.5	14	M261040619	M261060619	-	-	-
40.0	16	M261040620	M261060620	-	-	-

AQUASAFE SOLVENT
ADHESIVE SOLUTION & PIPE JOINT LUBRICANT



IPS WELD-ON PVC 100™ SOLVENT CEMENT

(Suitable for 2.0 cm to 11.0 cm pipes)

HSN CODE: 35069999

Qty. (ml)	Product Code	Pkg.(Nos.) Std.	Mast.
50	TMIPS100U050	-	48
118	TMIPS100U118	-	24
237	TMIPS100U237	-	24
473	TMIPS100U437	-	12
946	TMIPS100U946	-	12



uPVC 717 HEAVY BODIED

(Suitable for 12.5 cm pipes and above)

HSN CODE: 35069999

Qty. (ml)	Product Code	Pkg.(Nos.) Std.	Mast.
473	TIPS473P717	-	12
946	TIPS946P717	-	12



IPS WELD-ON PRIMER P70

(Suitable for 12.5 cm pipes and above)

HSN CODE: 35069999

Qty. (ml)	Product Code	Pkg.(Nos.) Std.	Mast.
473	TEZ-221	-	12
946	TEZ-220	-	12



BONDSET FAST SETTING

HSN CODE: 32141000

Qty. (gm)	Product Code	Pkg.(Nos.) Std.	Mast.
50	BONDSETFS-50	-	01
100	BONDSETFS-100	-	01



PIPE JOINT LUBRICANT

HSN CODE: 34031900

Qty. (gm)	Product Code	Pkg.(Nos.) Std.	Mast.
100	STINS-100	-	100
250	STINS-250	-	40
500	STINS-500	-	20



PTFE TAPE (12 MM WIDTH)

HSN CODE: 39199090

Size (m)	Product Code	Pkg.(Nos.) Std.	Mast.
5	PTFE-1205	-	01
10	PTFE-1210	-	01
20	PTFE-1220	-	01



RESCUE TAPE

HSN CODE: 39191000

Size (Ft.)	Product Code	Pkg.(Nos.) Std.	Mast.
5	RSCU-TAPE-05-CLR	-	120
5	RSCU-TAPE-05-RED	-	120
5	RSCU-TAPE-05-BLK	-	120
10	RSCU-TAPE-10-CLR	-	120
10	RSCU-TAPE-10-RED	-	120
10	RSCU-TAPE-10-BLK	-	120
15	RSCU-TAPE-15-CLR	-	120
15	RSCU-TAPE-15-RED	-	120
15	RSCU-TAPE-15-BLK	-	120



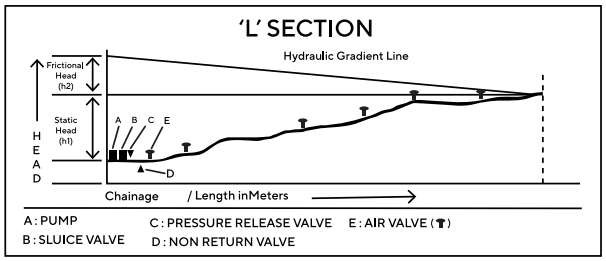
PIPEFIX PVC 101

Qty. (ml)	Product Code	Pkg.(Nos.) Std.	Mast.
50	T003606005A	-	48
118	T003606010A	-	24
237	T003606015A	-	24
473	T003606020A	-	12
946	T003606025A	-	12

SYSTEM SELECTION AND INSTALLATION GUIDE

SELECTION OF PIPE DIAMETER:

For an ideal design, the velocity of fluid passing through the pipe is taken as 1 m/sec. Select the pipe size at an intersection of the velocity of 1 m/s and discharge in lps using below flow diagram based on Hazen Williams formula. For given pipe size, frictions losses are to be calculated.



FRICTION LOSS CALCULATION

Flow of fluid through a pipe is resisted by viscous shear stresses within the fluid and the turbulence that occurs along the internal pipe wall which is dependent on the roughness of the pipe material.

This resistance is termed pipe friction and is usually measured in feet or metres head of the fluid which is why it is also refered to as the head loss due to pipe friction.

Overall head loss in a pipe is affected by a number of factors which include the viscosity of the fluid, the size of the internal pipe diameter, the internal roughness of the inner surface of the pipe, the change in elevation between the ends of the pipe and the length of the pipe along which the fluid travels.

Following Hazen Williams formula should be used for friction loss calculation.

Where

$$\frac{hf}{L} = \frac{1.213 \times 10^{10} \times Q^{1.852}}{D^{4.87} \times C^{1.852}}$$

hf : Head loss in m

L : Length of pipe section in m

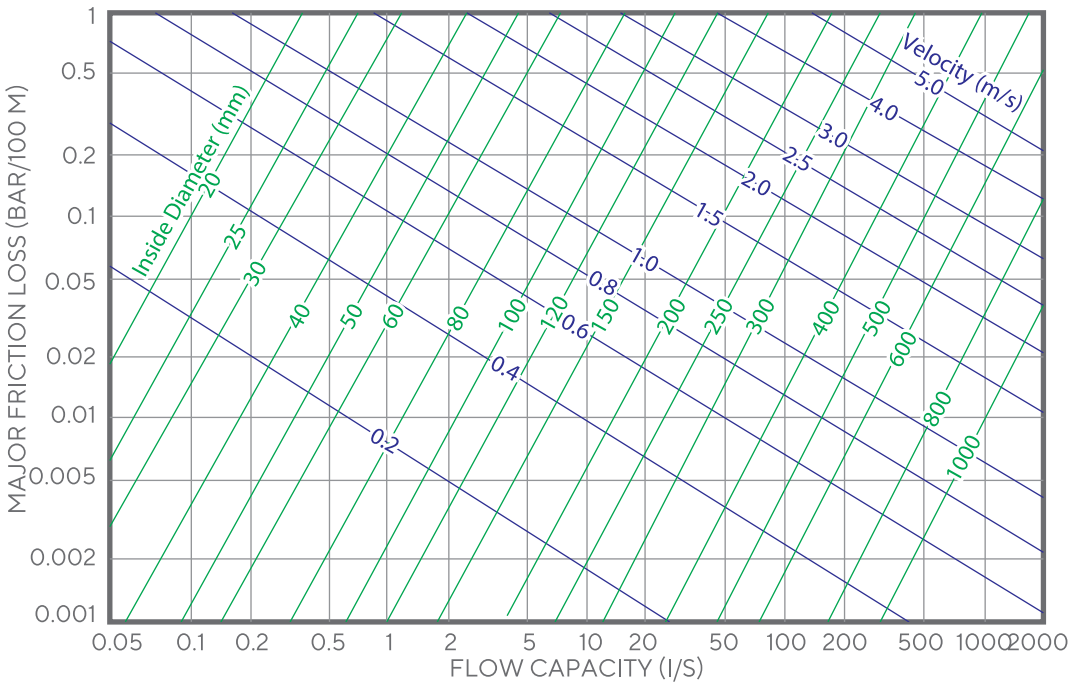
Q : Discharge in liters / sec

D : Internal diameter of pipe in mm

C : Hazen William constant 150

(For design purpose consider 140)

FLOW DIAGRAM OF ASTRAL uPVC PIPES (BASED ON HAZEN WILLIAMS FORMULA)



Note : Above graph is the schematic representation of friction loss for specific value of friction loss using Hazen Williams formula

SELECTION OF PRESSURE CLASS

For the selection of pressure class of a pipeline, total head acting on the pipe at that particular point is calculated as under:

Total Head = Frictional head + Static head + 10% sum of frictional head & static head

Additional 10% is taken to cover head losses in valves and fittings.

Total head value should be multiplied by the corresponding length.

The total head, pipe pressure class, can be selected as per the table below:

PRESSURE CLASS (MPa)	0.25	0.4	0.6	0.8	1.0	1.25
TOTAL HEAD (METERS)*	up to 25	up to 40	up to 60	up to 80	up to 100	up to 125

* as per thumb rule, considered 0.1 MPa = 100 meters of water column

PUMP SELECTION

The pump can be selected by using the formula:

HP of pump = Discharge X Head / 75 X n

Where, n= Efficiency of the pump i.e. 65%.

After acquiring the Pump HP, select the model with specification nearest to that of the manufacturers.

It is recommended to recheck the pressure class of the pipe by recalculating the selection of the pump.

WATER HAMMER

Whenever the flow rate of fluid in a pipe changes, there is a surge in pressure known as the Water Hammer. The longer the line and the faster the fluid moves, the greater the hydraulic shock will be. Water Hammer may be caused by opening or closing of a valve, starting or stopping a pump or by the movement of entrapped air through the pipe. Generally for design calculations, water hammer pressure is to be neglected considering high modulus of elasticity of PVC material.



AIR VALVE SELECTION AND INSTALLATION

Though there is correct calculation of pipe size and pressure class selection, air valve selection and proper installation is most important for proper functioning.

The combined use of air and water is very harmful to PVC pipes. The air tends to accumulate in the pipeline if air valves are not functioning due to its compressible nature. This is caused by a transient change in the localised velocity which leads to the generation of high localised pressure which can not be detected on a conventional gauge. To avoid this, good quality air valves should be installed. Air valves are available in Single acting and double acting types.

SOME IMPORTANT INFORMATION ABOUT AIR VALVES:

1. Generally, air valves should be provided at all peak points in the pipeline in between a distance of 300 - 400 meters.

2. The size and the location of the air valves should be decided by consulting an engineer.

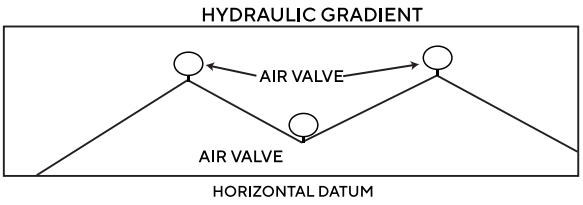
3. The size of the air valve should be from ¼ th to ⅛ th of the diameter of the pipe for a smooth admission as well as the release of air.

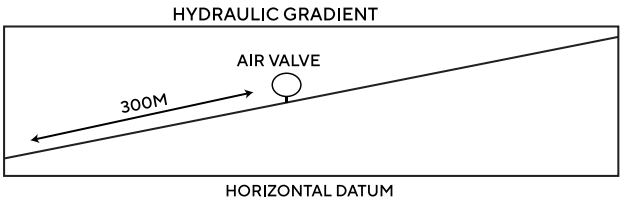
4. Only double-acting air valves should be used at peak levels.

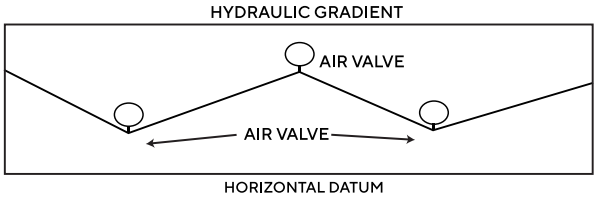
5. It is recommended to construct a chamber around air valves, to protect them.

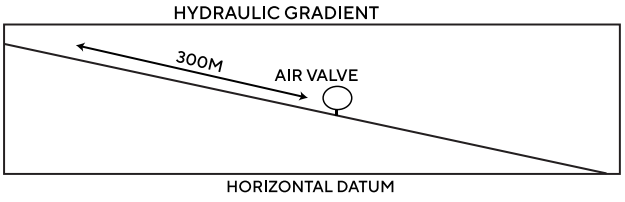
6. Air valves are also required at places where direction or velocity of flow changes.

7. Given below are the elevation diagrams indicating the use of air valves.









TRENCH PREPARATION

The following trenching and burial procedures should be used to protect the system:

1. The trench should be excavated to ensure that the sides remain stable under all working conditions.

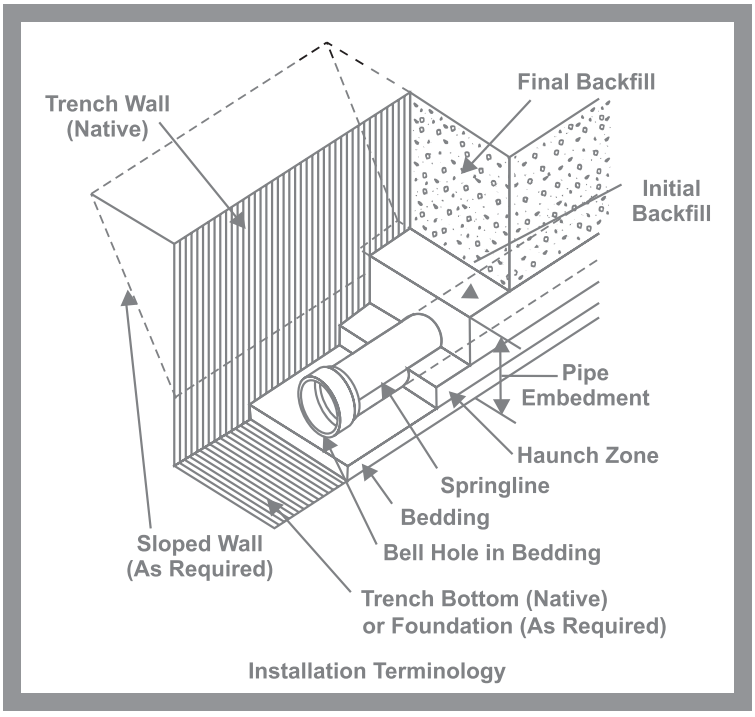
a. The trench should be wide enough to provide an adequate room. The space between the pipe and trench wall must be wider than the compaction equipment used in the compaction of the backfill. Minimum trench width should be 350-400 mm over the pipe diameter. Minimum trench height depends on pipe dia. and min. cover requirement. Optimally, pipe diameter plus 1 metre require.

2. The trench bottom should be smooth, free of rocks and debris, continuous and provide uniform support. If ledge rock, hardpan or large boulders are encountered, the trench bottom should be padded with the bedding of compacted granular material to a thickness of at least 4 inches. Foundation bedding should be installed as required by the engineer.

3. A smooth trench bottom is necessary to support the pipe over its entire length on firm stable material. Blocking should not be used to change pipe gradient or to intermittently support pipe over low sections in the trench.

uPVC pipes and fittings can be installed underground. Since these Piping systems are flexible systems, proper attention should be given to burial conditions. The stiffness of the piping system is affected by sidewall support, soil compaction, and the condition of the trench. Trench bottoms should be smooth and regular in either Undisturbed soil or a layer of compacted backfill. The pipe must lie evenly on this surface throughout the entire length of its barrel.

BEDDING AND BACKFILLING/SIDEFILLING:



1. Even though sub-soil conditions vary widely from place to place, the pipe backfill should be stable and provide protection for the pipe.
2. The pipe should be surrounded with a granular material which is easily worked around the sides of the pipe. Backfilling should be performed in a layer of 6 inches with each layer being sufficiently compacted to 85% to 95% compaction.
3. A mechanical tamper is recommended for compacting sand and gravel backfill which contain a significant proportion of offline grained material, such as silt and clay. If a tamper is not available compacting should be done by hand.
4. The trench should be completely filled. The backfill should be placed and spread in fairly uniform layers to prevent any unfilled spaces or voids.

SELFIT
INSTALLATION PROCEDURE



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 at 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. APPLY PRIMER AND SOLVENT CEMENT

Purpose of primer is to penetrate and soften surfaces. So they can fuse together. Apply primer if heavy bodied solvent cement is to be used. Then 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 perect made joint will show a continuous bead of cement around the perimeter.

ADHESIVE SOLUTIONS



IPS WELD-ON uPVC 100™ SOLVENT CEMENT



IPS WELD-ON 717 PVC SOLVENT CEMENT



IPS WELD-ON PRIMER P70

Always use Astral Aquasafe Solvent Fitted Pipes with fittings & for joining, use Astral uPVC Adhesive Solution

- Quality of solvent cement plays an important role and hence it is recommended to use good quality solvent cement only
- Very old, hard, semi-fluid solvent cement should not be used
- For 125 mm diameter and above size and for all classes, always use heavy bodied solvent cement uPVC 717
- Always use Primer P70 with heavy bodied solvent cement uPVC 717

RINGFIT INSTALLATION PROCEDURE



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 at 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.

APPROX. NO. OF JOINTS FROM 1 LTR SOLVENT CEMENT

SIZE (mm)	APPROX NO. OF JOINTS
20	354
25	270
32	225
40	180
50	130
63	125
75	103
90	79
110	54
125	45

SIZE (mm)	APPROX NO. OF JOINTS
140	36
160	27
180	25
200	15
225	12
250	09
280	07
315	05
355	03
400	02

TESTING PRESSURE SYSTEM

- Before testing, the safety precautions should be instituted to protect personnel and property in case of failure. Also system shall be visually inspected to ensure correct installation procedure has been followed including for fittings, valves & accessories/appliances.
- Solvent cement jointed pipelines to be tested at least after 24 hrs after last solvent cement joint has been made.
- Conduct pressure testing with water. Do not use air or other gases for pressure testing.
- The piping system should be adequately anchored to limit movement. Water under pressure exerts thrust forces in piping systems. Thrust blocking should be provided at changes of direction, change in size and at dead ends.
- The piping systems should be slowly filled with water, taking care to prevent surge and air entrapment. The flow velocity should not exceed 5 feet per second.
- All trapped air must be slowly released. Vents must be provided at all high points of the piping system. All valves and air relief mechanisms should be opened so that the air can be vented while the system is extremely dangerous and it must be slowly and completely vented before testing. The piping system can be pressurised to 150% of its designed working pressure. However, ensure that the pressure does not exceed the working pressure of the lowest-rated component in the system (valves, unions, flanges, threaded parts, etc.)
- The pressure test should not exceed one hour. Any leaking joints or pipes must be cut out and replaced, while the line recharged and retested using the same procedure.

HANDLING INSTRUCTIONS

HANDLING

The pipe should be handled with reasonable care. Because thermoplastic pipe is much lighter in weight than metal pipe. There is sometimes a tendency to throw it around. This should be avoided.

The pipe should never be dragged or pushed from a truck bed. Pallets for pipe should be removed with a fork lift. Loose pipe can be rolled down timbers, as long as the pieces do not fall on each other or on any hard or uneven surface. In all cases, severe contact with any sharp objects (rocks, iron angles, forks on forklifts, etc.) should be avoided.

STORAGE

If possible, pipe should be stored inside. When this is not possible, the pipe should be stored on level ground which is dry and free from sharp objects. If different schedules of pipes are stacked together, the pipe with the thickest walls should be at the bottom.

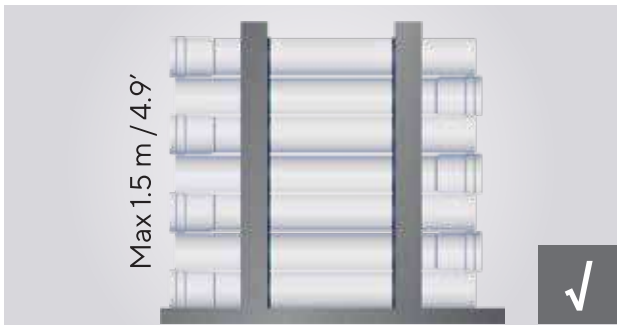
The pipe should be protected from the sun and be in an area with proper ventilation. This will lessen the effects of ultraviolet rays and help prevent heat built-up.

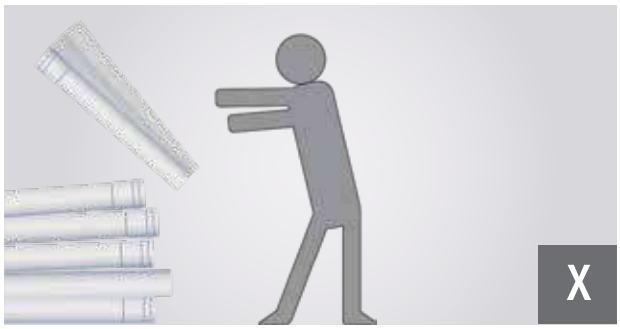
If the pipe is stored in racks, it should be continuously supported along its length. If this is not possible, the spacing of the supports should not exceed three feet (3').

When storage temperatures are below 0°C (32°F), extra care should be taken when handling the pipe. This will help prevent any problem which could be caused by the slightly lower impact strength of uPVC pipe at temperature below freezing.









DO'S & DON'TS

DO'S

1. Install product according to Astral's Installation instructions manual and follow recommended safe work practices.
2. Keep Pipe and fittings in original packaging until needed and store pipes in covered areas.
3. Use tools designed for use with plastic pipe and fittings.
4. Cut-off minimum 25 mm beyond the edge of the crack in case any crack is discovered on the pipe.
5. Pipe may be cut quickly and efficiently by several methods. Wheel – type plastic tubing cutters are preferred. Ratchet type cutters or fine tooth saws are another option. However, when using the ratchet cutter, be certain to score the exterior wall by rotating the cutter blade in a circular motion around the pipe. Do this before applying significant downward pressure to finalise the cut. This step leads to a square cut. In addition, make sure ratchet cutter blades are sharp. Cutting pipe as squarely as possible provides optimal bonding area within a joint.
6. Burrs and filings can prevent proper contact between the tube and fittings during assembly and should be removed from the outside and inside of the pipe. A chamfering tool is preferred, but a pocket knife or file is also suitable for this purpose.
7. Use only uPVC solvent cement PVC 100 & uPVC 717 otherwise it may result in joint failure.
8. Always conduct hydraulic pressure testing after installation to detect any leaks and faults. Wait for appropriate cure time before pressure testing. Fill lines slowly and remove air from the system prior to pressure testing.
9. Rotate the pipe ¼ to ½ turn to spread the uPVC solvent cement evenly in the joint while pushing the pipe into Fitting.
10. Use Teflon tapes with threaded fittings.
11. Ensure that there are no sharp edges in contact with the pipes while embedding the pipes on the walls or in the floors.
12. Visually inspect all joints for proper cementing at the end of shift or day. A visual inspection of the complete system is also recommended during pressure testing.

DON'TS

1. Do not use Metal Hooks or Nails to support/ hold or put pressure on the pipes. Do not use straps & hangers with rough or sharp edges. Do not tighten the straps over the pipes.
2. Never expose the pipe to open flame while trying to bend it.
3. Do not drop pipes on edges from heights. Do not drop heavy objects on pipes or walk on pipes.
4. Do not dilute Solvent Cement with thinner/ MTO or any other liquid etc.
5. Do not use any other petroleum or solvent – based sealant, adhesive, lubricant or fire hazard material on uPVC pipes and fittings.

CLIENT LIST &
GOVERNMENT APPROVALS

- Border Security Force, Govt. of India - Bikaner.
- Gram Panchayat Karyalaya -Ahmednagar.
- Sardar Sarovar Narmada Nigam Limited - Gujarat.
- Gujarat Water Supply & Sewerage Board - Gandhinagar
- Gujarat Narmada Valley Fertilizers & Chemicals Limited - Bharuch
- Bharat Heavy Electricals Limited, - Ranipet.
- Rajasthan Rajya Vidyut Utpadan Nigam Ltd. - Rajasthan.
- Government of West Bengal, Directorate of Public Health Engineering - West Bengal.
- Raipur Development Authority - Chhatisgarh.
- Karnataka Rural Infrastructure Development Ltd (KRIDL) - Karnataka.
- Central Public Works Department - Raipur.
- Karnataka Power Corporation Limited - Raichur.
- Gujarat Mineral Development Corporation Limited. - Kutch
- Larsen & Toubro Ltd. -Chennai.
- Government of Andhra Pradesh, Panchayati Raj Engineering Department - Vijayawada.
- Government of Rajasthan, Commissionrate of Agriculture - Jaipur.
- Punjab Irrigation and Farm Solutions - Ludhiana.
- The Indian Hume Pipe Co. Ltd. - Mumbai.
- Water and Sanitation Management Organisation - Rajkot.
- Farmer Welfare & Agriculture Development Department - Madhya Pradesh.
- NTPC Limited - Angul
- Reliance Sasan Power Ltd. - Madhya Pradesh.
- Sembcorp Energy India Limited. - Telengana.
- Lalitpur Power Generation Co. Ltd., (Group of Bajaj Energy) - Uttar Pradesh.
- Various Reputed Drip irrigation Companies of India



ASTRAL®
PIPES



A consumer validated ***Superbrand in piping*** *category for* ***consecutive 3 years***



India's Most Trusted *Pipe Brand based on* ***TRA's Brand Trust Report for the 4th time***



India's Most Desired *Brand based on* ***TRA's Brand Trust Report*** *2021*

ASTRAL®
PIPES

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Power of Trust 2022

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1st & 3rd Saturday and Public holidays

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