

WAVIN PVC+
Product Guide

Enlarged and Chamfered Lip Drainage System





about **wavin**

Wavin is an innovative solution provider for the building and infrastructure industry across multiple continents. Backed up by 60+ years of expertise, we are geared up to tackle some of the world's biggest challenges around: water supply, sanitation, climate-resilient cities and building performance.

At Wavin, we focus on creating a positive change in the world. Our passion is to build liveable and loveable places. We engage and collaborate with city leaders, engineers, planners and installers to help make cities future-proof, and their buildings comfortable and energy-efficient.

Wavin is part of Orbia, a community of companies bound together by a shared purpose: to advance life around the world. Wavin has 12,000+ employees in 40+ countries worldwide and operates under brands like Wavin Amanco and Pavco.

**For more information about Wavin, visit us @ www.wavin.com
or for Wavin India, visit us @ www.wavin.co.in**

let's build long-lasting cities

Wavin started production plants in Hyderabad & Neemrana, in a move which is key to our continued success. Wavin will have the production of advanced water & gas products for below ground use and invest in new technology assets to produce PVC and CPVC products for above ground applications (drinking water and soil & waste solutions) to create real value addition for our customers.

Wavin India, Neemrana Factory



Wavin India, Hyderabad Factory



Wavin's purpose: building healthy and sustainable environments which focus on four drivers:

Driver 1: Safe & efficient water supply

Our future generations are facing a 40% shortfall between their water supply and demand – making it unacceptable that existing water is leaking away or being contaminated by ageing pipes. At Wavin, we believe that current water infrastructure can be fixed without extensive city interruptions and that we need to enable better solutions for rainwater reuse to not exhaust our freshwater resources.



Driver 2: Better sanitation and hygiene

Our outdated sewer systems are overwhelmed by urbanization and population growth, endangering our health and safety. Our cities need lasting solutions for sanitation with fewer leaks, less clogging and better health-risk monitoring. Our future depends on it.



Driver 3: Building climate resilient cities

As our cities grow and deal with the impacts of climate change, our solutions need to be smarter and more connected to solve the five big challenges in climate resilience:

Floods, Droughts, Heat stress, Groundwater depletion and Surface-water pollution.

We can't do it alone. That's why we're working closely together with city planners, architects, engineers and many others.



Driver 4: Better building performance

Wavin products facilitate improved connections that transform the building and installation industry through water management, fabricate land stability, and deliver natural gas. These basic infrastructure connections enhance the quality of our life.



About Product PVC+ Pipes and Fittings

A revolution in its segment, the PVC+ range of pipes and fittings include bends, branches, access fittings, traps, solvent cement and lubricants to provide a range of solutions for soil, waste & rainwater for unmatched performance, supreme durability and smooth water flow. This revolutionary product is available in grey color and has two connection methods to give it maximum installation flexibility.

The two connection methods are:



Ring-Seal (Push-Fit)
Pipes and Fittings
Available in
75-160 mm sizes



Solvent Weld
Pipes and Fittings
Available in
40-160 mm sizes

Specialist Seal Technology

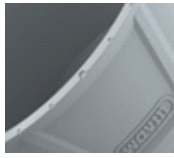
The PVC+ pipes and fittings come loaded with Specialist Seal Technology. The innovative co-moulded seals always stay inside the seal groove, ensuring the seals do not dislodge and remain intact during jointing. Moreover, a polypropylene reinforced co-moulded seal also ensures leak-free joints & provides enough room for thermal expansion and contraction. And because of the solvent-free joint, it can be reopened as and when required.

High-Performance Pipes

Manufactured as per IS 13592 using a state-of-the-art extrusion machine and socketed on an advanced inline socketing machine.

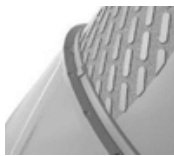


PVC+ Pipes & Fittings have many unique patented features like



Enlarged and Chamfered Lip

The enlarged lip provides more stiffness to the product. Used for easier installation and removal of fittings



Angular rotation guidance

Allows accurate angular alignment of fittings. Fittings have different markings at each 15° and 45° intervals for easy alignment. This allows it to easily align with fittings that need to be positioned at a rotated angle.



Insertion depth ring

Visual indication that the spigot is fully inserted. Insertion depth check on fitting to make a optimum connection.

PVC+ has below mentioned features:



Quick, easy, and convenient installation

Wavin PVC+ systems are lightweight, reducing transportation, handling, and installation costs.



Corrosion and abrasion resistance

Wavin PVC+ pipes are durable and long lasting.



Smooth Interior free of incrustations

Wavin PVC+ pipes and fittings are very smooth assuring low friction loss and higher flow rates than other materials.



Cost-effective

The many advantages of the Wavin PVC+ system ensure a lower capital, quick, easy installation and maintenance costs.

Standards and Codes:

WAVIN PVC+ Pipes & Fittings		
Type of System	Standards	Sizes Available
Solvent Weld Range	IS 13592 : 2013 and IS 14735 : 1999	40, 50, 75, 90, 110 and 160 mm
Push-Fit Range	IS 13592 : 2013 and IS 14735 : 1999	75, 90, 110 and 160 mm

Specialist Fittings:

PVC+ pipes and fittings are designed innovatively to make installations easier.

Nahani Trap

It is a device which receives wastewater from showers, bathrooms & kitchen floors and transmits it to the drainage.

P-Trap with 50 mm Water Seal

These traps are constructed outside the building to carry wastewater discharge from wash basin, sinks, bathrooms, etc.

Multi Floor Trap with MFT 5" Water Seal with 35 mm & MFT 7" Water Seal 50 mm

To drain wastewater from bathrooms, wash basins and convey it to the main pipeline. It also prevents odour.

Square Gully Trap with 50 mm Water Seal

The Gully Trap with jali is a specialized trap attached to the drainage system outside the building with a minimum 50 mm water seal to collect sewer water and free-flow water.

Advanced Designed Pipe Clip*

It is used for an efficient and tidy way to restrain, secure and guide tubing or conduit for a range of drainage, heating and electrical purposes.



Field of Applications

The PVC+ pipes and fittings come with a choice of two waste, soil and rainwater drainage systems: Solvent Weld and Push-Fit.

Solvent Weld Range

- 40, 50, 75, 90, 110 and 160 mm pipes and fittings • Color: Grey • Fire Retardant Properties
- UV Resistant: Suitable for Exterior and Interior Installation • Manufactured in PVC

Manufactured as per IS 13592:2013 and IS 14735: 1999 in 40, 50, 75, 90, 110 and 160 mm. This system is made by the latest machinery and offers unrivalled performance, strength and finish. Solvent Weld is joined by the solvent cement.

Push-Fit Range

- 75, 90, 110 and 160 mm pipes and fittings • Color: Grey • Simple-to-Use System: Saves Time and Site Costs • Quick, Efficient Assembly by Means of Push-Fit Jointing

Manufactured as per IS 13592:2013 and IS 14735:1999 in 75, 90, 110 and 160 mm. This system comes with a pre-fitted rubber in the groove that ensures a leak-proof joint. It is joined by simply pushing the spigot end into the socket end.

* Coming Soon

Technical Data Sheet

A. Material/Properties/Color

Generic properties of uPVC	
Density [g/cm ³]	1.3-1.45
Thermal conductivity [w/(m.k)]	0.14-0.28
Yield strength [MPa]	31-60
Young's modulus [psi]	490.000
Flexural strength (yield) [psi]	10.500
Compression strength [psi]	9500
Coefficient of thermal expansion (linear) [mm (mm°C)]	5 x 10 ⁻⁵
Vicat B [°C]	65-100
Resistivity [Qm]	10 ¹⁶
Surface Resistivity [Q]	10 ¹³ - 10 ¹⁴

B. Dimension of SolventFit (SF) Pipe

Dimension of Pipes- All dimension are in "mm"

Nominal outside Diameter (DN)	Mean outside Diameter		Outside Diameter at Any Point		Wall thickness, S Type A		Wall thickness, S Type B	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
75	75.00	75.30	74.10	75.00	1.80	2.20	3.20	3.80
90	90.00	90.30	88.90	91.20	1.90	2.30	3.20	3.80
110	110.00	110.40	108.60	111.40	2.20	2.70	3.20	3.80
160	160.00	160.50	158.00	162.00	3.20	3.80	4.00	4.60

C. Fire Resistant

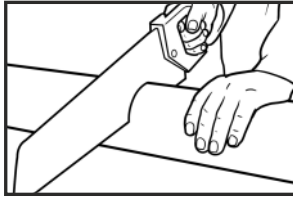
The PVC+ pipes and fittings system is self-extinguishing and does not support combustion. As the Earth atmosphere is only 21% of oxygen, it will not burn due to the 45% Limiting Oxygen Index (LOI) unless a flame is constantly applied.

Generic properties of uPVC	
Material	LOI
Cotton	16-17
Polypropylene	18
Polyethylene	18
Wood	20
CPVC	60
PVC	45

Chemical Resistance:

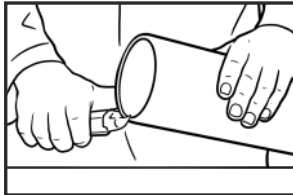
PVC+ is **resistant to many chemical like lead, mercury etc.** It is also resistant to most common corroding agents including inorganic acids, alkalis and salts. However, PVC+ should not be used with esters, ketones, ethers and aromatic or chlorinated hydrocarbons.

Installation Instructions: Solvent Weld Pipes and Fittings



Step 1: Cutting

Inspect the pipe thoroughly and measure the required pipe length accurately as per site requirements. You can directly cut the pipe due to the pre-printed scale on the pipe with the help of a hand saw or a wheel cutter. Make sure that the pipe is cut straight at 90° to get the optimal joint. The straightness can be checked with the help of a miter box.



Step 2: Deburring

Make sure that the pipe end is burr-free. Burrs can obstruct flow and can restrict contact between pipes and fittings socket during jointing. Hence, it is to be removed using a suitable deburring tool or a half-round file/knife. A slight bevel/chamfer on the end of the pipe will make the entry of the pipe to the fitting socket easy.



Step 3: Jointing Preparation

Clean, wipe off dirt and moisture from the pipe end and fitting socket with the help of a clean and dry cloth. Next, check the dry fitment of the pipe and it should easily go inside 2/3rd of the fitting socket. Make a mark on the pipe end to be inserted during jointing.



Step 4: Application of Solvent Cement

Apply a layer of solvent cement into the fitting socket first and then on the pipe end. Do not use solvent cement that is thick or lumpy.



Step 5: Jointing

Insert the pipe into the fitting socket immediately after applying the solvent cement and check whether the pipe has entered the mark. Rotate the pipe at 90° while inserting to ensure even distribution of solvent cement during jointing. Hold the entire assembly for approximately 30 seconds to ensure the pipe does not withdraw.



Step 6: Remove Excess of Solvent Cement

Wipe off the excess cement with a clean and dry cloth and allow it to cure. If there is no excess of cement visual, it means too little glue has been applied.

Note: Use Wavin's Make Solvent Cement along with Wavin's PVC+ Solvent Weld pipe & fittings every time during jointing to get a leak-free joint.



Do's and Don'ts

Always follow the do's and don'ts instructions for optimum performance and longevity.

Do's

- Always remove the excess solvent cement immediately. Due to its dissolving properties, excess or residual solvent cement left behind can damage the joint.
- Use brushes made of hog bristles. Brushes made of plastic dissolve in solvent cement and are therefore quickly unusable.
- Allow the solvent cement to dry long enough. The drying time depends on diameter, ambient temperature and fit (clearance between key and socket).
- Watch for condensation on the pipe and in the socket. This can occur as the material cools due to evaporation of the cleaner, or due to temperature differences between the pipe/attachment and the environment.

Don'ts

- Do not put solvent cement at temperatures below 5°C and store the solvent cement in a frost-free place.
- Avoid loading too quickly. If the solvent cement has not dried properly, chances are that leakage may occur.

Note: Depending on the amount of solvent cement and the temperature, the processing time of the standard glue is about 30 seconds. The higher the temperature, the shorter the processing time.

The Importance of Cleaning

- The primer does more than just clean and degrease. It penetrates the PVC causing the PVC to swell and the surfaces to become soft (plastic).
- Solvent cement penetrates PVC better if the parts are first prepped with cleaner.



Defects Warranty for Wavin Products

Wavin [NAME O.C] (hereinafter: “Wavin”) warrants towards (hereinafter: “the Installer”) for the project that the goods sold and delivered by Wavin (hereinafter: “the Products”) will be free from defects in material and/or manufacture and will comply in the country of origin with applicable legislation, regulations and the latest technical knowledge and the requirements of good and sound craftsmanship. In the event the Installer proves that any of the Products are not in conformity with the above warranty (“Warranty”), Wavin shall:

A. replace such Products by new delivery free of charge to the Installer;

B. In case the replacing Products appear to be defective as well; rescission of the purchase agreement for such defective Products or a price reduction as considered appropriate by Wavin.

C. Compensation of the following damages in case the defects are attributable to us;

Damages to the Products

Damages caused by defective Products to property of the Installer or of counterparties of the Installer damage as a result of personal injury caused by defective Products

on the following conditions:

- The Products have been installed according to the most recent installation guidelines as published by Wavin on its website, the applicable legislation and all demands of the latest technical knowledge and the requirements of good and sound craftsmanship;
- The Wavin [Soil & Waste] [Soil, waste and rainwater drainage system] System has been installed with Wavin products only. In other words, no competing products from other suppliers have been installed in the system;
- Wavin has received a written complaint about the defective Products with-in 30 days after discovery of the defects;
- Installer has given Wavin the opportunity to verify the defects on-site immediately after receipt of the written complaint This Warranty shall have a duration of 10 years after delivery of the Products

On top of the 10 years remedies mentioned under points A, B, and C, Wavin shall also in case of proven breach of this Warranty, for a period of 5 years after delivery of the Products and on the conditions as mentioned in points I – IV above:

D. Bear the costs necessarily incurred in seeking and finding the defective Products and excavation and removal of defective Products and compensate, in case the defects are attributable to us, damages caused by the excavation and removal from defective products to other property of the Installer or of counterparties of the Installer.

Our total liability for costs, price reductions or damages as mentioned above under A, B, C and D is in all cases limited to a maximum of EUR 1.000.000,-- per cause of failure with a maximum of EUR 1.000.000,-- per year.

We have insured our liability under this Warranty at a reputable insurance company.

This Warranty is applicable to all products of Wavin, with the exception of electrical parts and pressing tools. All other warranties, representations and other terms as to the quality of the Products, their fitness for purpose, or their correspondence with any description or sample are excluded.

Any further rights or remedies the Installer may have and especially all claims for consequential damages or losses (e.g.: loss of profit, loss of production) shall be excluded. The Installer further accepts the applicability of the General Terms of Sale and Delivery of Wavin.

This Warranty shall be construed in accordance with Indian laws. Any provision of this Warranty which is prohibited, void or unenforceable in the applicable jurisdiction shall be ineffective to the extent possible without invalidating the remaining provisions as applicable in that jurisdiction.

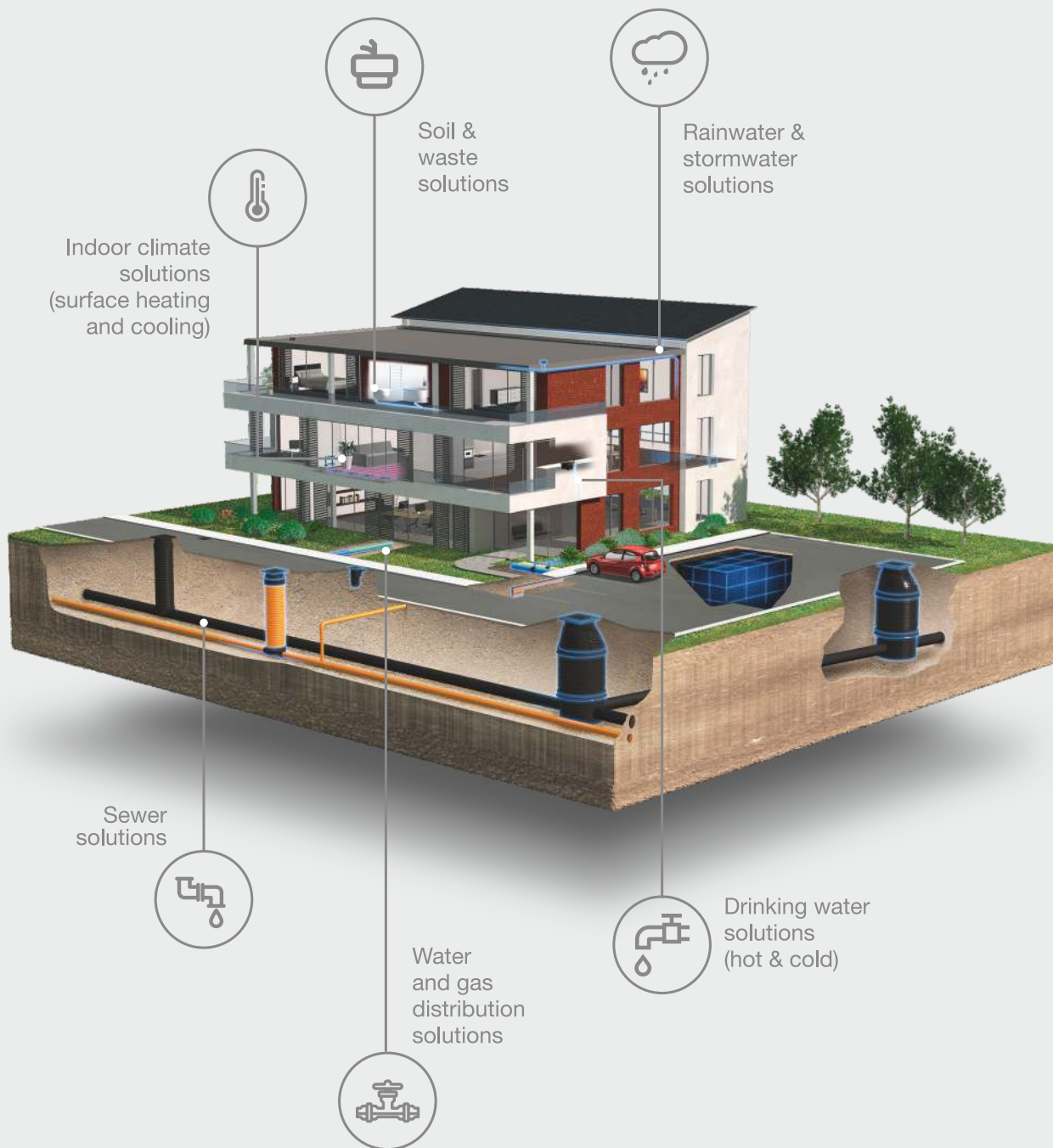
Wavin . [O.C. NAME] . [THE INSTALLER]

Discover our broad portfolio at wavin.com

Hot & Cold Water
Indoor Climate
Soil & Waste

Foul Water
Stormwater

Gas & Water Mains
Geotextiles



Wavin is part of Orbia, a community of companies working together to tackle some of the world's most complex challenges. We are bound by a common purpose: To Advance Life Around the World.

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