WAVIN SuperTemp CPVC
Product Guide

New Age Advanced Formulated Plumbing System

wavin


wavin

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 is a leading global solutions provider for the building and infrastructure industry. With a presence spread across continents and a legacy of over six decades, Wavin is now in India as a fully committed supplier & solution provider for sustainable water supply and management systems, Made In India.

Wavin India is committed to providing the best solutions to India's urban population for safe and efficient water supply, and better sanitation and hygiene through a comprehensive product Portfolio made available through our pan-India network of distributors, agents and licensed partners.

Wavin India, Neemrana Factory

Wavin India, Hyderabad Factory

Our Purpose

With a growing population and limited resources, today we face major challenges

70%

Cities lose up to of all pumped water through pipe leakages.

50%

of the energy and water that flows into buildings today is wasted

50%

of the population will be living in water- stressed areas by 2025

50%

of the people in the developing world live without improved sanitation

Potable water is our most valuable asset; without it, life on Earth as we know it, would be impossible. Even with more than 70 per cent of the planet covered by water, providing access to fresh, clean and potable water has become a challenge for the world.

Safe and efficient water supply
In a world of precious water resources,
we make every drop count.

General Product Information

Wavin's advanced SuperTemp CPVC pipes and fittings are designed to provide superior leakproof efficiency in a wide range of applications, including hot and cold water systems in residential, commercial, industrial and miscellaneous setups. Their robust design and flexibility make them suitable for all uptake and downpipes , including concealed pipe applications. With its RoHS-compliant raw material, it is also suitable for potable water supply.

SuperTemp CPVC Key Features

SuperTemp CPVC comes with a whole set of unique features:

- Extremely resistant to pressure at high temperatures (125 PSI at 82 ° C)
- Free of external and internal corrosion
- Low thermal conductivity
- Advance formulated material
- Low waste on site due to its high impact resistance.
- Installed when central water heating systems are required
- Manufactured under the ASTM D2846 / ASTM F439/ ASTM F493 Standard
- Hydraulic efficiency
- Self-extinguishing, does not spread flame
- LOW VOC welding

System Advantages

SuperTemp CPVC systems offer a wide range of advantages that make them suitable for different applications:

Chlorine resistance:

Chlorine, which is a widely used chemical to guarantee a safe water supply, can damage pipes. SuperTemp CPVC offers superior chlorine resistance to supply safe potable water.

Self-extinguishing:

The pipe material of SuperTemp CPVC is self-extinguishing, that is, it ceases to burn once the source of the flame has been removed, making it a safe choice.

Standards and Portfolio Range

SuperTemp CPVC pipes and fittings meet all necessary quality standards to provide superior efficiency.

WAVIN SuperTemp CPVC Pipes & Fittings	
Type of System	Standards
For Pipes	ASTM D2846, ASTM F441
For Fittings	ASTM D2846, ASTM F439
For solvent weld	ASTM F493

Our portfolio goes from ½" up to 2" CTS size And from 2 ½" up to 4" IPS.

Technical Details

Dimensional detail of SDR-11 [class-1] and SDR-13.5 [class-2]
SuperTemp CPVC pipes confirming to IS:15778:2007

Wavin supertemp cpvc pipes & fittings					
Size	Outside Diameter(mm)		Tolerance	Min. Wall Thickness [mm]	
mm (inch)	Min.	Max.		SDR-11	SDR-13.5
15 (½)	15.80	16.00	±0.08	1.70	1.40
20 (¾)	22.20	22.40	±0.08	2.00	1.70
25 (1)	28.40	28.80	±0.08	2.60	2.10
32 (1-¼)	34.70	35.10	±0.08	3.20	2.60
40 (1-½)	41.10	41.50	±0.10	3.80	3.10
50 (2)	54.30	54.70	±0.10	4.90	4.00

Technical Information

Hydraulic Design

SuperTemp CPVC pipe systems, as other materials, have to take into account different stress conditions in order to provide an adequate design and system performance. These stresses can be caused by hydrostatic pressure, water hammer, fill or dead loads and live loads.

Internal Hydrostatic Pressure

To determine the maximum hydrostatic pressure to which SuperTemp CPVC pipes can be exposed, it is necessary to know what the design hydrostatic stress (S) is. S is defined as the estimated value of the maximum tensile stress in its cross direction, caused by the water pressure, and, which can be applied continuously on the tube walls with a high degree of reliability such that no failure will occur.

Water Hammer Design

Wavin SuperTemp CPVC pipes are designed to handle water hammer phenomenon which can occur during the transportation of liquids. When valves are installed to control the water flow in the pipe network, it can cause pressure overload, which in turn can lead to burst pipes. With their advanced design, SuperTemp CPVC pipes can handle the pressure variation and ensure seamless flow of water even with frequent spikes in flow and pressure.

Thermal Performance

Wavin SuperTemp CPVC pipes are designed to provide superior thermal performance in the range of 0-93 degree Celsius. However, in case the installation conditions are above or below this range, it can cause contraction or expansion in the pipe, affecting its mechanical properties.
To accommodate the thermal expansion, change in direction of flow and direction can be made in SuperTemp CPVC pipes.

Linear Expansion

Owing to their mechanical properties, SuperTemp CPVC pipes are subject to linear expansion when exposed to changes in temperature, both in the liquid being transported as well as in the environment. Regardless of their diameter, SuperTemp CPVC pipes will expand about 7.5 cm per 30 metres for a temperature variation of 40° C. Thermal expansion can be accommodated during the installation itself by using expansion loops which allow for the pipe to expand without affecting its performance.

Pipe Support Design Considerations

Proper pipe support is important to guarantee best performance for SuperTemp CPVC system installations. The distance between supports depends on the pipe size, temperature, wall thickness, etc. However, it must be kept in mind that pipe supports must not trap the pipe and limit longitudinal movements due to thermal expansions. Fixed points are only advisable on valves or fittings where strong direction changes occur. Except for joints, all fittings must be individually supported, and valves must be anchored to prevent torque on the line. The vertical sections must be guided with rings or brackets. A line of SuperTemp CPVC pipe should not be laid adjacent to a steam line or chimney.

Since the SuperTemp CPVC pipes are free from condensation, they do not need insulation, but for environmental benefits, designer-recommend insulations may be used.

Installation Instructions

Cemented Joint

The WAVIN SuperTemp CPVC line has fittings that are attached to pipes using solvent cement, which is detailed as follows:

a) To perform an efficient jointing between pipes and fittings, clean the product thoroughly. Make sure that both ends, of the fittings and the pipes, are free of grease or dirt.

b) Cut the pipes squarely using recommended cutters or a hacksaw. Remove debris with the aid of a blade, making sure that the surface is smooth. The surface must not be sanded.

Note: Check the fit between the end of the pipe and the fitting before starting the execution of the weldable joint. There must be a proper insertion for leakproof connections, and this occurs when the end of the pipe occupies 1/3 to 2/3 of the total socket length of the fitting.

c) With the help of a brush, apply a thin and uniform layer of SuperTemp CPVC solvent cement in the fitting bell and the tip of the pipe. Apply the adhesive on both areas, preventing any excess to ensure perfect welding.

d) Push the pipe firmly into the fitting and provide a 1/4 turn. Press them for approximately 30 seconds. Remove excess cement with a clean cloth and let it dry.

Handling Precautions

- Work in a ventilated place in absence of children and animals.
- Avoid contact with skin and eyes and, in case of an accident, follow the information presented on the packaging for remedy.

Handling Precautions

- For greater durability, we recommend closing the packaging after each use.
- Before using the product, make sure that it is valid within the expiry date, as indicated on the packaging.

Threaded Joint

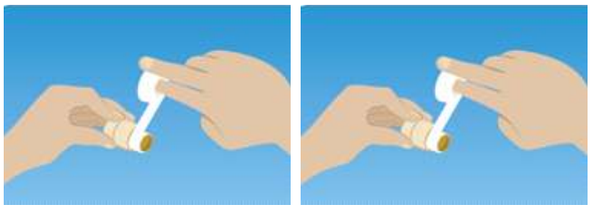
The use of the Wavin SuperTemp CPVC Line in water installations sometimes requires a transition between the SuperTemp CPVC and the metal parts, which is carried out by threaded joints. Installation of threaded joints may be carried out as follows:

a) To ensure an effective threaded joint, clean the products and make sure both male and female threads are free of rust and debris.

b) Check that the thread pattern of both parts to be joined is compatible.

c) Apply the sealing tape clockwise over the thread to be joined.

d) Execute the threaded joint, performing manual tightening to secure the connection.



Note: Teflon Tape withstands temperatures between –90 ° C and 230 ° C and can be used for hot and cold-water installations with PVC threads or metallic.

Outdoor Installation

Outdoor installations of SuperTemp CPVC pipes require special considerations. When the SuperTemp CPVC pipes are exposed to solar radiation, they must be covered or protected with a paint that meets the following characteristics:

- It should not contain solvent or be a thinner-based product. These substances are not compatible with SuperTemp CPVC.
- It must have a reflective component such as aluminum or similar substance.
- Adherence to SuperTemp CPVC must be ensured with direct application or through the application of a "primer".

Before painting the pipe, the surface must be prepared to ensure adherence; lightly dry, sand, clean and apply water base paint.

Applications and Installation Examples

Single-family home | Multi-family home | Industry | Hotels | Apartments | Offices | Commercial

Advantages

Better control over material needs on site | Waste reduction | Saves time! | Saves money

Testing Guidance and Protocols

Pressure Test

The pressure test can be applied considering a 50% increase over the operating pressure. The pressure test must not exceed the design pressure of the piping, fittings or anchors. Pressure must be controlled at the lowest point of the section, so that it does not exceed the design of the pipeline.

Example Protocol Pressure Test Drinking Water Installations - Testing with Water

(Based on test protocol from BTGA Regel 5.001; pressure test with water)

Building project:

_____

Clients represented by:

_____

Contractor represented by:

_____

Pipe system material:

_____

Connection type:

_____

System operating pressure: _____ bar

Ambient temperature: _____ °C test medium _____ °C □t _____ K

The drinking water system has been tested as total installation in _____ sections

Designation of the subsection:

_____

Subsection Nr _____ from total of _____ subsections.

The filling water is filtered, and the line system is fully vented

All lines were sealed with metal plugs, caps, blanking plates or blind flanges.

Appliances, pressure tanks or drinking water heater were disconnected from the lines.

A visual inspection of all pipe connections to proper execution has taken place

Metal, multi-layer composite and PVC pipes

Plastic pipes made of PE, PP, PE-X, PB and therewith combined pipes from multi-layer and metal

1) If □t > 10 K, 30 minutes wait time after application of the system pressure, before actual testing. If □t <10 K go to step 2

2) Apply the actual test pressure of min. 1.1 times (11 bar) of the maximum allowable working pressure (10 bar according to DIN EN 806-2). Test time: 30 min.

3) Reduce the pressure to 0.5 times (5.5 bar) of the initial test pressure and implement a visual inspection. Test Time: 30 Min.

4) Evaluation: During the test period no pressure drop occurred (□p = 0). Leaks are not present.

The pipe system is: tight/leaking

Client signature/ stamp _____

Place, date_____ Contractor signature/ stamp _____

Cleaning and Disinfection Before Entering Operation Protocols

a) Inject water into the section of the pipe to be disinfected, keeping the outlet free.

b) Let the water drain out to wash the pipe.

c) Calculate the water volume required to fill the section of pipe to be disinfected and determine the amount of disinfectant to be injected to guarantee 50mg/l concentration of chlorine.

d) Inject drinking water into the section to be disinfected, allowing it to come out of the outlet end for a few minutes.

e) Inject the disinfectant, either with liquid chlorine or Sodium hypochlorite, with the concentration indicated in the following step (f). This can be diluted prior to water filling or injected separately.

f) Let the solution sit for some minutes to guarantee the required concentration of 50mg / l.

g) Leave it to rest for 24 hours, during which time the concentration of chlorine must be at least 25mg / l. If it is below this value, more disinfectant must be added.

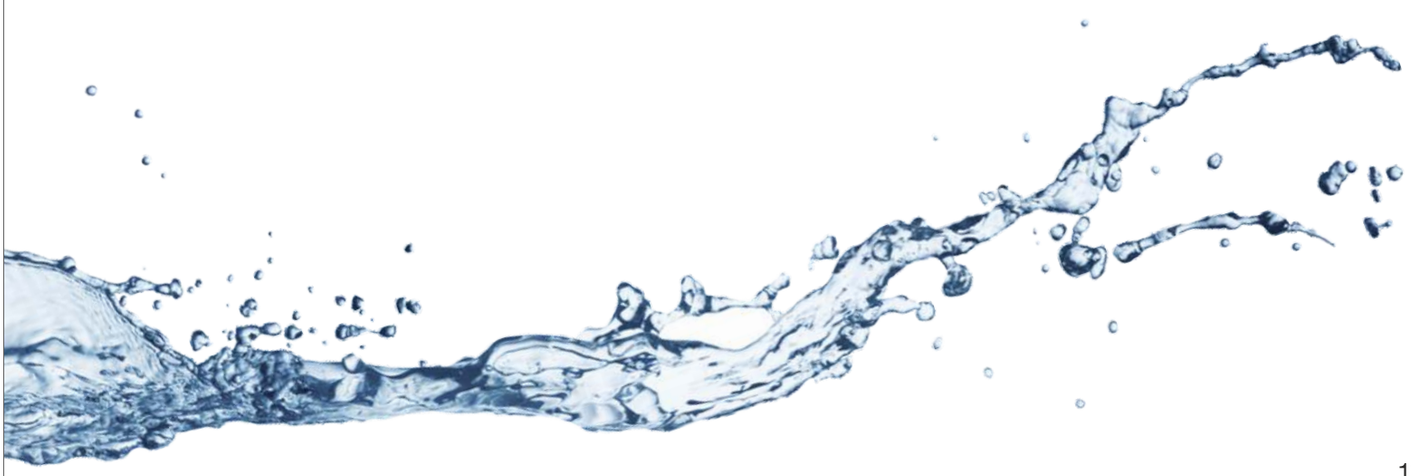
h) Take a water sample from the pipe being disinfected. When tested in a laboratory qualified for this purpose, it must be free of coliform microorganisms.

i) Let another 24 hours pass and take another sample by the same assay.

If the results are satisfactory, carry out the disinfection of the water and proceed to make the connection definitive.

Guidelines for Handling and Storage Protocols

- Handling and storage of Wavin pipes and fittings must be carried out with care, avoiding damage to the material.
- During the loading and unloading of the pipes do not throw them to the floor or hit them.
- While shipping, pipes must be tied to protect them using non-metallic ties. Do not overload the pipes.
- Pipes can be shipped in open or closed trucks; however, they should always be placed on flat surfaces to avoid damage.
- To optimize shipping, pipes can be inserted into others, when their diameters allow it.
- The height of the pipe load must not exceed 2.50 meters. To achieve greater capacity and stability of the load, pipes should be placed alternating bells and spigot.
- When shipping over long distances and time, the pipe load must be protected. Space must be left between the container or truck top and the pipes to allow air circulation to avoid deformations caused by the weight of the pipes and the existing temperature.
- Pipes should be stored horizontally using a flat surface or blocks of wood that allow the support to be 9 cm wide and spaced a maximum of 1.50 m.
- For on-site storage, pipes must be separated by size and packed at a maximum of 1.50 m in height.
- When exposed to the sun, pipes must be protected with an opaque material, maintaining adequate ventilation.
- Solvent cement should not be exposed to extreme heat or cold. The site must be well ventilated since solvent cement is flammable (check product datasheet).
- In the following table check the maximum number of pipes that can be shipped in a 6.0 m wide truck as indicated:



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.

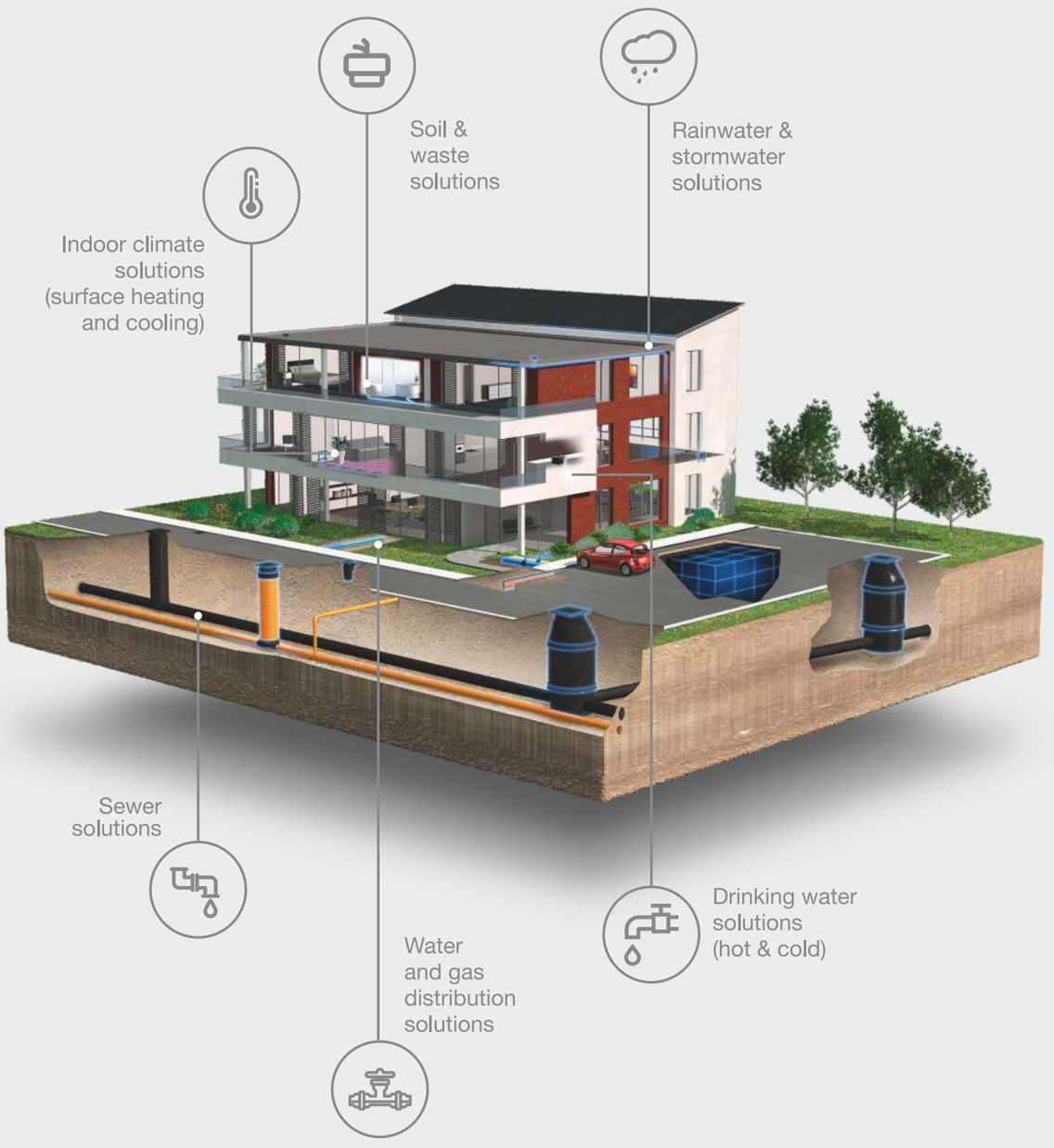
Wavin . [O.C. NAME] . [THE INSTALLER]

Discover our broad portfolio at wavin.com

Hot & Cold Water
Indoor Climate
Soil & Waste

Foul Water
Stormwater

Gas & Water Mains
Geotextiles



orbia
Advancing life together

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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