wavin

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Product and installation manual

Wavin AS

Acoustic Soil System

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Building & Infrastructure

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Introduction
Wavin AS

Wavin AS Acoustic Soil System

Wavin AS is an effective low noise system, available in 110mm and 160mm. Complemented by a full range of push-fit fittings, the system offers flexibility of an extensive choice, excellent quality and reliability. Compared to cast iron, Wavin AS is quick and easy to install, because of its socket connections.

Wavin AS is resistant to hot water and fulfils the mechanical test requirements of BS EN 1451, which means 95°C short term and 90°C long term temperature loading. Where PVC-U fittings are used, long term temperature resistance is reduced and only suitable for use with intermittent discharges of water up to 90°C. Wavin AS can be used for the drainage of waste water between pH 2 and pH 12.

Features and Benefits

- High Density Material – Wavin AS is made of a minerally reinforced polypropylene called Astolan®. Because of its high specific weight and its special molecular structure, Astolan® is able to absorb airborne sound as well as structure borne sound
- Easy Installation – quick and economic in comparison to cast iron. Wavin AS is lightweight thus easy to handle. Installation is quick and easy, due to the proven push fit socket connections and easy pipe cutting, leading to time and cost savings
- Easy Fixing – Wavin AS can be fixed with rubber lined metal brackets. Expensive fixing techniques are not necessary
- Durable – Wavin AS is extremely robust, resistant to corrosion, internally very smooth and resistant to deposits

Applications

Multiple storey buildings requiring noise insulation:

- Hotels
- Hospitals
- Shopping malls
- Office buildings
- Residential homes
- High-rise apartments
- Schools and universities

The Wavin AS system can be installed as:

- Soil stacks
- Internal rainwater systems
- Suspended pipe systems

To allow waste connections to the main stack, Wavin AS can be used in conjunction with Wavin's standard waste systems. It can also be used in conjunction with standard PVC-U soil fittings if required.

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Sound Insulation
Wavin AS

General Principles

With its excellent noise insulating characteristics, Wavin AS is the optimal solution where noise insulation is required. The patented raw material Astolan®, a mineral filled polypropylene, has a high specific weight and special molecular structure, which enables absorption of a number of different sound sources.

Structure Borne Sound

Structure borne sound transmits from the shock or impact zone over the whole pipe. The special molecular structure of Wavin AS enables the absorption of structure borne sound.

Airborne Sound

Sound which diffuses in the air. Occurs inside the pipe due to impact and flow noises. Due to vibration of the pipe additional airborne sounds are generated. Sound energy is absorbed in the pipe wall.

Wavin AS pipe material provides excellent airborne sound absorbing behaviour, because of its high specific weight and special molecular structure.

Impact Sound

Sound which diffuses in solid materials. Structure borne sound is created by the impact of waste water on the pipe wall, especially in vertical stacks in the area of bends and branches.

Sound Absorption

The weight per meter of a soil and waste system is of great importance in absorbing airborne and structure borne sounds.

The combination of high specific weight and high elasticity gives the optimal results in damping the transmission of both sounds through a pipe system. Wavin AS is specifically developed to make optimal use of both properties, the pipe weight of 110mm Wavin AS for example is no less than 3.55kg/m. This is heavy enough to provide appropriate sound absorption while still being significantly lighter than cast iron.

Design and Installation
Wavin AS

Wall Installation

Where Wavin AS is to be installed against a wall with separate decorative top layer (e.g. plaster boards), it is required that the brackets are fixed to the construction wall and not to the decorative layer. Pipe penetrations through the decorative layer can be mended by using elastic filler.

Pipe and shaft dimensions to be taken from the table below and Figure 1.

Table 1: Space Requirement for Wavin AS Pipes

DN (mm)	OD of pipe d_a (mm)	OD of socket d_M (mm)	Min. required spacing t_{erf} (mm)
100	110	132	179
150	160	181	227

Rainwater Down Pipes

Roof drainage pipes projected through living, sleeping and working rooms can be installed as pictured in Figure 1. The specific area weight of the casing should be at least equal to the wall and preferably for both at least 220 kg/m2.

Although the formation of condensation on the outside of Wavin AS pipes is less than on metallic pipes, it is recommended to insulate the pipes and fittings.

Figure 1: Wall Installation Space Requirements

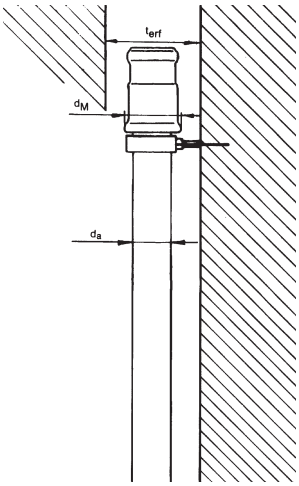
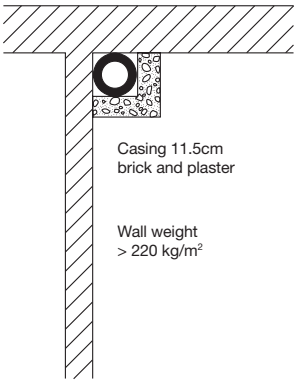


Figure 2: Rainwater Downpipe Installation



Pipe Cutting

Wavin AS can be cut simply with a commercial pipe cutter or handsaw. Always cut the pipe straight.

When inserting pipe into the collar end of compensator socket
Remove all swarf and burrs from the cut end and clean the pipe end. Bevel sharp cutting edge – do not chamfer!

Inserting pipe into standard ringseal socket
For connections to socketed pipe and other standard ringseal sockets, the ends of the Wavin AS pipe must be chamfered.

How to Chamfer Pipe

Where chamfering is required for ringseal sockets only (not collar/gasket end of compensator socket) use the special chamfering tool. Instructions are as follows:

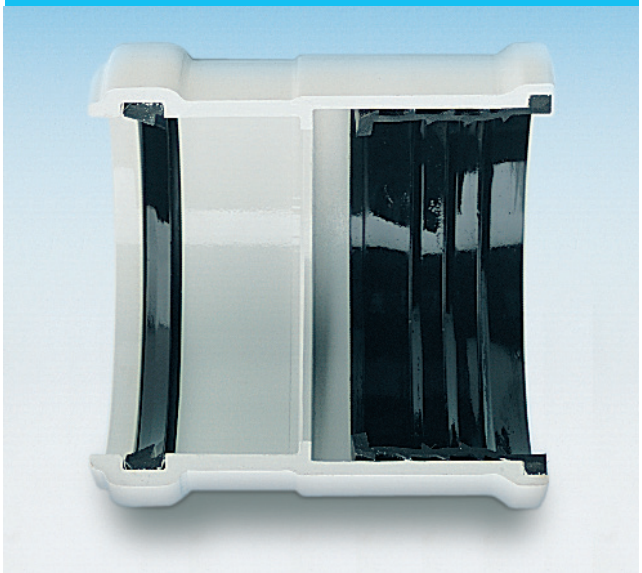
1. Ensure pipe is held securely.
2. Remove end cap and load sponge with suitable lubricant.
3. Remove template from tool, snap onto pipe and slide to required length. Mark pipe and remove template.
4. Saw pipe to required length.
5. Ensure chamfering tool fits snugly into the pipe.
6. With torsion control dial on first setting (i.e one dot) turn handle in clockwise direction applying as little downward pressure as possible. Gradually increase torsion control until correct chamfer is achieved.
7. Remove tool from pipe.
8. Using lubricating sponge apply lubrication to end of pipe.

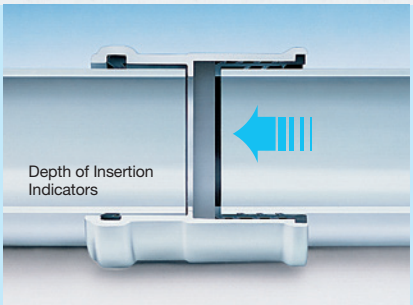
Compensator Socket

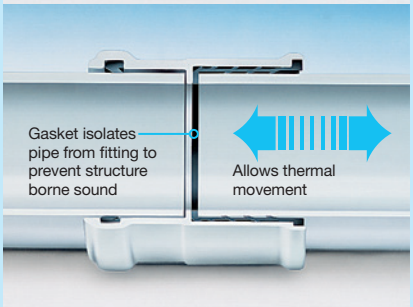
The Wavin AS compensator socket is a special fitting used to connect plain ended pipe to a branch so that:

- Maximum acoustic performance is achieved by preventing structure borne sound.
- Compensation is allowed for thermal movement on every floor without the need to employ the common practice of withdrawing pipe by 10mm from the fitting.

This not only saves working time, but also gives additional technical security to the system.







Fitting Instructions

When making the connection with the compensator socket the following instructions should be adhered to:

- When installed vertically, please ensure that the collar/gasket end is facing down.
- Clean un-chamfered pipe end.
- Check the position and condition of the elastomeric sealing ring in the groove.
- Further check the condition of the elastomeric expansion collar.
- If necessary, clean fitting, sealing ring and collar.

1. Expansion collar
Push the expansion collar over the pipe end. Please note: The expansion collar may only be pushed over the plain pipe ends, never over the spigot end of fittings.

2. Apply lubricant inside
Apply lubricant inside compensator socket of fitting. Never use oil or grease.

3. Apply lubricant outside
Apply and distribute Wavin lubricant evenly on outside of elastomeric compensator collar. Push fitting over compensator collar to full insertion depth.

4. Check final position
Check final position of compensator collar. Ensure pipe end is flush with gasket tip.

5. Apply lubricant to spigot
Apply Wavin lubricant on the spigot fitting and insert in the socket end to full depth.

Design and Installation
Wavin AS

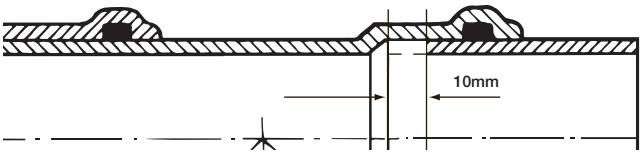
Wavin AS Socket Connection

For non-acoustic installations, the compensator socket is not essential, but an allowance for expansion using a standard socket is still required.The standard socket connection is to be installed as follows:

- Check position and condition of the elastomeric sealing ring in the groove. If necessary, clean fitting and sealing ring
- Clean and chamfer pipe end or spigot fitting
- Apply lubricant in a thin and equal layer on pipe end
- Insert pipe end straight to the central register of the socket
- Withdraw pipe by 10mm, never the fitting

In the case of vertical soil stacks, the individual pipe lengths must be fixed immediately after assembly with pipe brackets, in order to avoid the pipe from sliding downwards and eliminating the 10mm expansion/ contraction allowance. (see Figure 3 and Bracket Fixing Instructions).

Figure 3: Thermal Expansion Method

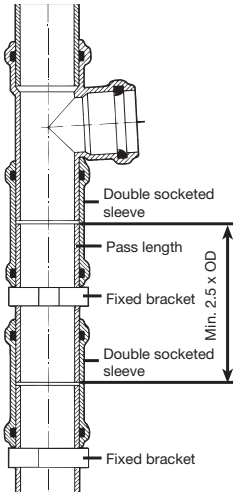


Connection to Pre-installed Pipe

Using standard Wavin AS fittings, connections to pre-installed pipe can easily be achieved. Installation instructions using double socketed sleeves:

1. Cut out a sufficient length of pipe (length of fitting plus 2.5x OD of pipe).
2. Cut required pass length.
3. Deburr and bevel cutting edges.
4. Slide branch or access pipe on upper pipe end.
5. Fit one double socketed sleeve, over its full length, on pass length.
6. Fit one double socketed sleeve, over its full length, on lower pipe end.
7. Fit in pass length and close the pipe by sliding the double socketed sleeves in position.
8. Fix double socketed sleeves as pictured in Figure 4.

Figure 4: Repair Sleeve Installation

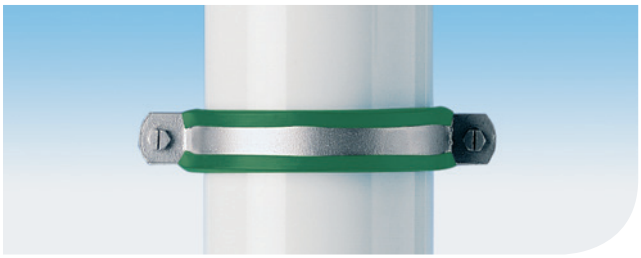


Sound Insulation

In order to achieve optimal sound insulation please consider the following:

The Wavin AS pipe system must be free from the plaster layer, avoiding sound bridges. A layer of mineral wool or 5mm PE foam should be wrapped around the pipe, where contact with the structure of the building cannot be avoided (eg plaster layer or floor penetration). Emitted sounds depend highly on the course of the pipe.

The prevention or reduction of impact zones leads to less sound emission. Therefore abrupt directional changes should be avoided. For optimal sound insulation, use full encircling brackets with rubber inserts. Wavin AS brackets are fitted with rubber inserts which insulates the system for structure borne sound.



Bracket Fixing Instructions

Fixed Bracket

The fixed bracket creates a fixed point in the pipe system. The pipe or fitting cannot be moved through the bracket after the screws are tightened (no longitudinal movement is possible). In order to prevent the vertical stack sliding down, each pipe section between floors must be secured by a fixed bracket.

Also every horizontally installed pipe should always be fixed with one fixed bracket. All remaining pipe brackets (vertical and horizontal installation) must be sliding brackets. Prescribed bracket distances should not be exceeded.

Use sound absorbing brackets, dimensionally compatible to the pipe diameter. Screw-pipe brackets with rubber inserts are recommended, which are fixed to the wall by screws and plastic plugs.

Sliding Bracket

By using sliding brackets the pipe can still be moved through the bracket after the screws are tightened (longitudinal movement is possible once installed).

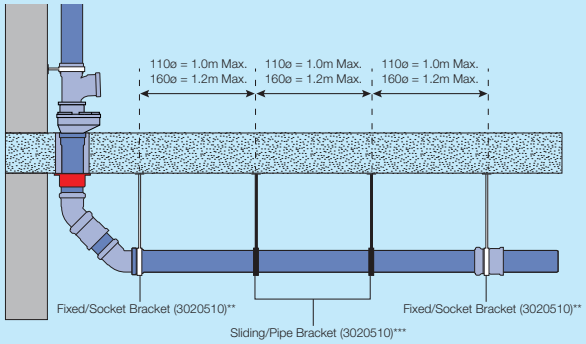
Bracket Arrangement

During installation of Wavin AS pipes, the following should be considered:

- In case of horizontal installation, the pipe bracket spacing should be 10x the outside diameter of the pipe. In case of vertical pipe installation, depending on outside diameter, 1-2 metre
- Generally pipe brackets should not be installed in impact areas (eg diameter reductions and changes of directions in the system)
- Pipe brackets to be fixed to building materials with high specific area weight
- For stack pipes in open mounting shafts and high rooms (storey height over 2.5 meters) it is advised to use one fixed bracket and one sliding bracket per pipe length
- In buildings under 3 storeys (see Figure 5), the fixed bracket must be installed directly above the fitting at the bottom of the pipe end. The sliding bracket must be installed at a distance of maximum of 2 meters above the fixed bracket. This pattern should be repeated on the following floors
- In multiple storey buildings (from 3 storeys and more) the stack pipes of 110mm must be secured by additional fixing (stack pipe support) to prevent sliding. In this case we advise using the Wavin AS socketed short length with a fixed bracket (see Figure 5)

Figure 5. Bracketing Arrangement

Horizontal Bracket Arrangement



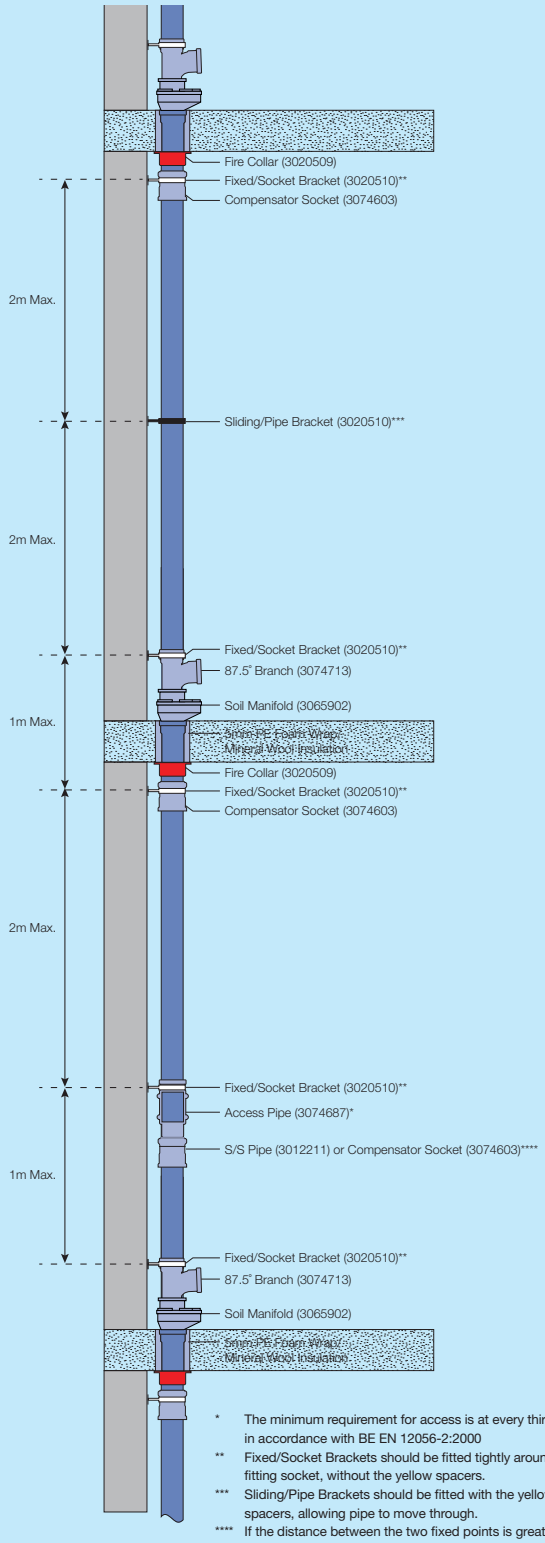
* The minimum distance between the last connection and the invert of drain should be in accordance with BE EN 12056-2:2000

** Fixed/Socket Brackets should be fitted tightly around the fitting socket, without the yellow spacers.

*** Sliding/Pipe Brackets should be fitted with the yellow spacers, allowing pipe to move through.

**** Wavin recommend that every fitting or group of fittings must be secured as a fixed point.

Vertical Bracket Arrangement



* The minimum requirement for access is at every third floor in accordance with BE EN 12056-2:2000

** Fixed/Socket Brackets should be fitted tightly around the fitting socket, without the yellow spacers.

*** Sliding/Pipe Brackets should be fitted with the yellow spacers, allowing pipe to move through.

**** If the distance between the two fixed points is greater than 1.0m, the S/S Pipe must be replaced by a Compensator Socket to allow for expansion.

Design and Installation
Wavin AS

Fire Protection

Fire Collar System

The Wavin AS Soil fire collar is for 110mm and 160mm Wavin AS pipes (when passing through steel framed partitions or masonry walls with a thickness of minimum 120mm and concrete floors with a thickness of at least 150mm) when tested to BS EN 1366-3:2004 for a fire resistance period of up to 120 minutes. The fire collar has been approved by the Local Authority Building Control (LABC).

The fire collar is designed to maintain the fire resistance of compartment walls and floors where they are penetrated by Wavin AS pipes. The depth of each seal is 60mm.

The seals have a 1mm thick circular steel housing, powder coated, with fixing lugs at the base, spaced equidistant around the external periphery of the collar.

Each collar is fastened by means of a toggle clasp and has integral lugs at one end for ease of installation.

The intumescent layers are held in position within the steel housing using tabs at the top of the collar, which are bent over. The depth of the tabs are proportional to the thickness of intumescent used. The total intumescent used is 8mm thick. The steel housing is produced from a single sheet of steel.

The Wavin AS fire collar is suitable for use on PVC-U, MDPE, HDPE, ABS, PP and minerally reinforced polypropylene plastic pipes. See Figure 6 for positioning of fire collars.

Table 2: Fire Collar Technical Detail

	Pipe OD	
	110mm	160mm
Thickness of intumescent layer	4mm	4mm
Number of intumescent layers	2	5
Total thickness of intumescent	8mm	20mm
Number of fixing lugs for masonry walls and concrete floors	4	6
External pipe closure diameter	132mm	210mm

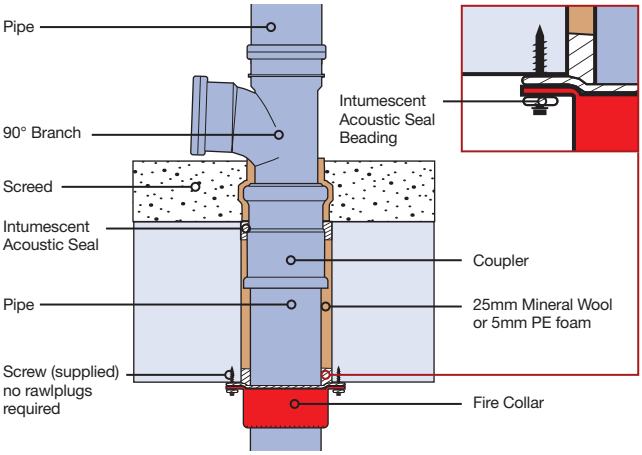
Installation

The Wavin AS fire stop seals are suitable to be installed through steel-framed partitions, masonry walls and concrete floors.

The minimum permissible thickness of the masonry wall is 120mm and the minimum permissible thickness of the concrete floor is 150mm.

Gaps around the pipes within the thickness of the wall or floor are sealed with a suitable fire rated intumescent mastic, backed by a plug of stone mineral wool or PE foam. The mastic should be about the same depth as the gap width. Use the intumescent mastic as shown around the fire collar to prevent structure borne sound.

Figure 6. Fire Collar Installation Underside of Concrete Slab



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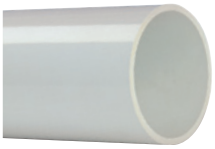
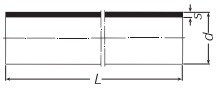
Acoustic Soil Range
Wavin AS

Pipe

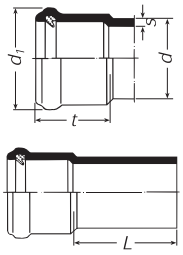




Plain Ended Pipe

Material: Polypropylene with Astolan®

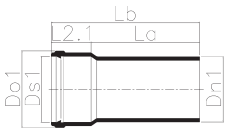
Nominal Size (mm)	Part Number	Dimensions (mm) d	s	L
110	3003325	110	5.3	3000
160	3003331	160	5.3	3000



Single Socketed Pipe

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) d	d1	s	t	L
110	3012211	110	132	5.3	61	3000
110	3003362	110	132	5.3	61	2000

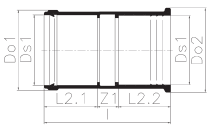


Single Socketed 150mm Short Length Pipe

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Do1	Do2	Ds1	L	L2.1	L2.2
110	3074619	110	132	110	61	150	211
160	3074622	160	188	160	66	150	216

Couplers



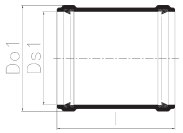
Compensator Socket

- For acoustic performance and built in allowance for thermal expansion
- For more information see page 5

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Do1	Do2	Ds1	L	L2.1	L2.2	Z1
110	3074603	132	132	110	127	57	48	22
160	3074606	188	188	160	151	66	63	22

Acoustic Soil Range
Wavin AS



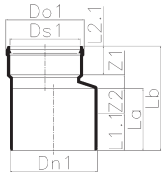
D/S Sleeve

- All push-fit sockets

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Do1	Ds1	L
110	3074610	132	110	117
160	3074612	188	160	143

Reducer



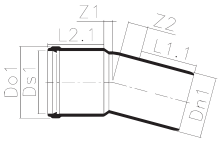
Single Socket Reducer

- One plain end and one push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	L1.1	L2.1	La	Lb	Z1	Z2
160/110	3074698	160	132	110	66	61	115	220	44	49

Bends

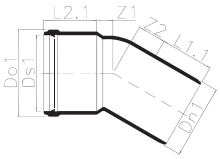


S/S Bend – 15°

- One plain end and one push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	L1.1	L2.1	Z1	Z2
110	3074637	110	132	110	61	61	15	27
160	3074647	160	188	160	66	66	19	13

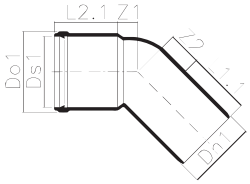


S/S Bend – 30°

- One plain end and one push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	L1.1	L2.1	Z1	Z2
110	3074638	110	132	110	61	61	19	37
160	3074648	160	188	160	66	66	30	24

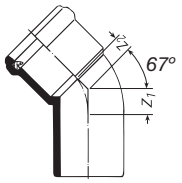


S/S Bend – 45°

- One plain end and one push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	L1.1	L2.1	Z1	Z2
110	3074639	110	132	110	61	61	28	44
160	3074649	160	188	160	66	66	24	36

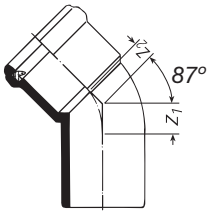


S/S Bend – 67°

- One plain end and one push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Z1	Z2
110	3074640	60	44



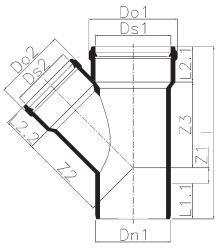
S/S Bend – 87°

- One plain end and one push-fit ring-seal socket

Material: Polypropylene with Astolan® / PVC-U†

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	L1.1	L2.1	Z1	Z2
110†	3074641	110	132	110	61	61	58	78
160	3074650	160	188	160	66	66	95	108

Branches



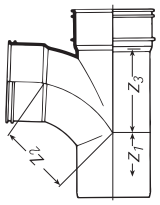
S/S Equal Branch – 45°

- One plain end and two push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Do2	Ds1	Ds2	L	L1.1	L2.1	L2.2	Z1	Z2	Z3
110	3074673	110	132	132	110	110	303	61	61	61	43	138	138
160	3074681	160	188	188	160	160	362	66	66	66	36	194	194

Acoustic Soil Range
Wavin AS

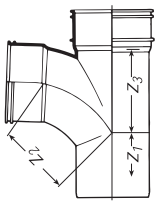


S/S Equal Branch – 67°

- One plain end and two push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Z1	Z2	Z3
110	3074674	58	84	84

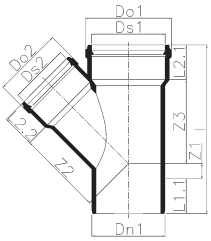


S/S Equal Branch – 87°

- One plain end and two push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Z1	Z2	Z3
110	3074713	70	88	138

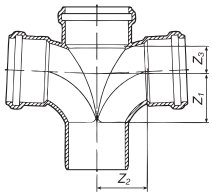


S/S Unequal Branch – 45°

- One plain end and two push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Do2	Ds1	Ds2	L	L1.1	L2.1	L2.2	Z1	Z2	Z3
110/160	3074680	160	188	132	160	110	322	66	66	61	24	176	166

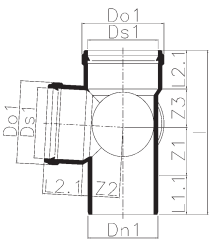


S/S Double Branch – 87°

- One plain end and three push-fit ring-seal socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Z1	Z2	Z3
110	3074715	100	88	47

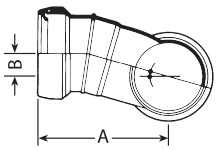


S/S Corner Branch – 87°

- One plain end and three push-fit ring-seal sockets
- Square entry

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	L	L1.1	L2.1	Z1	Z2	Z3
110	3074684	110	132	110	258	61	61	78	58	58



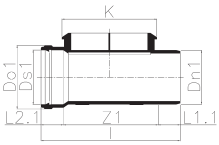
D/S WC Manifold Branch – Straight

- All push-fit sockets

Material: PVC-U with EDPM seals

Nominal Size (mm)	Part Number	Offset Degree	Dimensions (mm) A	B	Effective Length (mm)
110	3020490	Straight	180	–	132
110 LH	3020491	8°	180	16	132
110 LH	3020492	15.5°	180	32	132
110 LH	3020493	23°	180	48	132
110 LH	3020494	30.5	180	64	132
110 LH	3020495	38	180	80	132
110 RH	3020496	8°	180	16	132
110 RH	3020497	15.5°	180	32	132
110 RH	3020498	23°	180	48	132
110 RH	3020499	30.5	180	64	132
110 RH	3020500	38	180	80	132

Access Pipe



S/S Access Pipe

- Rectangular access
- One plain end and one push-fit socket

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) Dn1	Do1	Ds1	K	L	L1.1	L2.1	Z1
110	3074687	110	132	110	0	359	58	61	240
160	3074689	160	188	160	0	411	65	66	280

Bossed Pipe

Single Boss Pipe – Spigot Tail

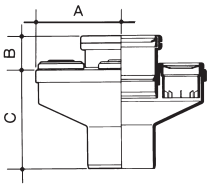
- One plain end and two push-fit ring-seal sockets

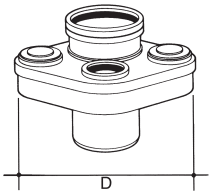
Material: PVC-U, with EPDM seals

Nominal Size (mm)	Part Number
110x32	3020506
110x40	3020507
110x50	3020508

Acoustic Soil Range
Wavin AS

Manifold





Soil Manifold

- One plain end and one push-fit ring-seal socket
- Permits up to three 50mm connections to be made at floor level
- Complies with BS EN 12056-2:2000 clause ND. 3.3.2
- Make connections using 2CS354 (below), 2C355 or 2C356
- Minimum installation aperture: 240mm square

Material: PVC-U, with Rubber seals

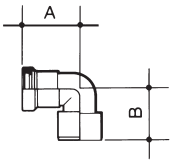
Nominal Size (mm)	Part Number	Dimensions (mm) A	B	C	D
110	3065902	138	55	160	275

All-Fit Reducer – 40:32mm

- Connects to 32mm plastic pipe to BS EN 1451-1/BS EN 1455-1/ BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871
- Use with 2CS355 (below) when a bend is required

Material: Polypropylene

Nominal Size (mm)	Part Number	Dimensions (mm) A
40	2CS354	54

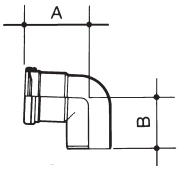


All-Fit Reduction Bend – 50:40mm

- Connects to 40mm plastic pipe to BS EN 1451-1/BS EN 1455-1/ BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871

Material: Polypropylene

Nominal Size (mm)	Part Number	Dimensions (mm) A	B
50	2CS355	70	65



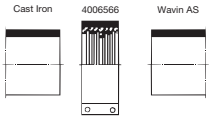
All-Fit 90° Spigot Bend – 50mm

- Connects to 50mm plastic pipe to BS EN 1451-1/BS EN 1455-1/ BS EN 1566-1, or to copper pipe manufactured to BS 659 or BS 2871

Material: ABS

Nominal Size (mm)	Part Number	Dimensions (mm) A	B
50	2CS356	79	64

Adaptor to Cast Iron



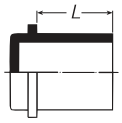
Connector to Cast Iron

- Connects from Wavin AS to Cast Iron

Material: Steel

Nominal Size (mm)	Part Number
110	4006566
160	4006568

Stop End



Socket Plug

Material: Polypropylene with Astolan®

Nominal Size (mm)	Part Number	Dimensions (mm) L
110	3074704	57
160	3074706	49

Safety Clip for Socket Plug

Material: Stainless Steel

Nominal Size (mm)	Part Number
110	4006571
160	4006573

Fire Collar

Fire Collar

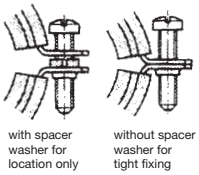
- Fixing lugs for masonry walls and concrete floors

Material: Steel, Intumenescent layer

Nominal Size (mm)	Part Number
110	3020509
160	3020513

Acoustic Soil Range
Wavin AS

Accessories and Spares



Pipe Bracket with Rubber Insert

- M10 Female thread for fixing
- Can be used both as a fixed and as a sliding bracket

Material: EPDM, Steel (Zinc Plated)

Nominal Size (mm)	Part Number
110	3020510
160	3020514

Chamfering Tool

- For pipe chamfering
- Use for standard pipe/socket connections (not compensator socket gasket end)

Nominal Size (mm)	Part Number
110	3020512

M10 x 80mm Bolt

- Fixing for Solid Wall
- Socket suitable for Torx screwdriver

Material: Steel (Zinc Plated)

Nominal Size (mm)	Part Number	Dimensions (mm) M10
–	3020511	80

Spare Sealing Ring

Material: Rubber

Nominal Size (mm)	Part Number
110	4006583
160	3000177

Spare Collar

Material: Rubber

Nominal Size (mm)	Part Number
110	4006554
160	4006556

CONNECT TO BETTER

Transport, Handling and Storage
Wavin AS

Handling, Storage and Safety

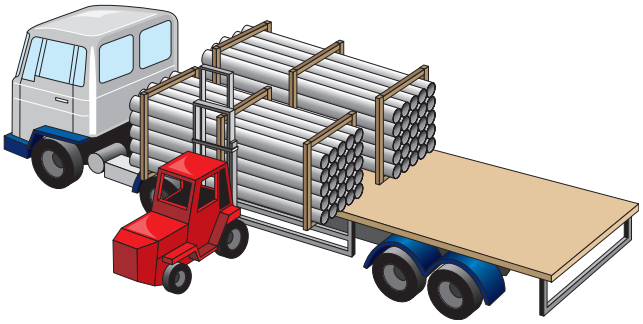
Handling

Care should be taken when handling pipe and fittings. Excessive scratching or scoring harms the appearance and can also affect the joint sealing.

Take extra care when handling pipe and fittings in wintry conditions. Cold weather reduces the impact strength of plastics. Use nylon belt slings, or forklifts with smooth forks, for mechanical unloading of block bundles. Metal slings, hooks or chains must not come into contact with pipes (see Figure 1).

Load and unload loose pipe by hand. Avoid using skids. When loose pipes have been transported one inside the other, always remove the inner pipe first.

Figure 1: Unloading of block bundles



Storage

Always store pipe on a reasonably flat surface free from sharp projections.

Block Bundles

Block bundles can be stored up to 3m high without extra side supports or bearers. Block bundles will remain free-standing when cut. Take care when releasing bundles as the straps are under considerable tension and may flail when cut.

Loose Pipes

Loose pipe requires side supports at least every 2m. These supports should consist of battens at least 75mm wide. Ideally, support loose gutter or pipe uniformly throughout its entire length. If this is not possible, place timber supports at least 75mm wide at 1m maximum centres beneath the pipe (see Figure 3) Stack different size pipe separately, or, if not possible, stack with larger diameters at the bottom.

Maximum stack size: 7 layers or 2m high (see Figure 2).

Stack Socketed Pipe with sockets protruding and placed at alternate ends to ensure pipe is evenly supported.

Fittings

Store fittings supplied in plastic bags away from direct sunlight. If this is not possible, open bags to prevent a build-up of temperature.

Fittings in cardboard packaging (e.g. Fire Stop Seals and Air Admittance Valves) should be stored under cover until required.

Store degreasing cleaners, silicone lubricant, solvent cement and fillers in a cool place away from any heat source and out of direct sunlight.

Safety

The relevant regulations detailed in the Health and Safety at Work Act 1974 must be adhered to on site.

Figure 2: Storage of loose pipe on the ground

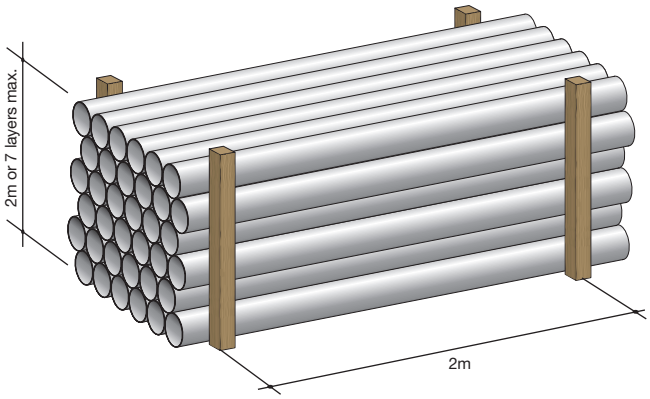
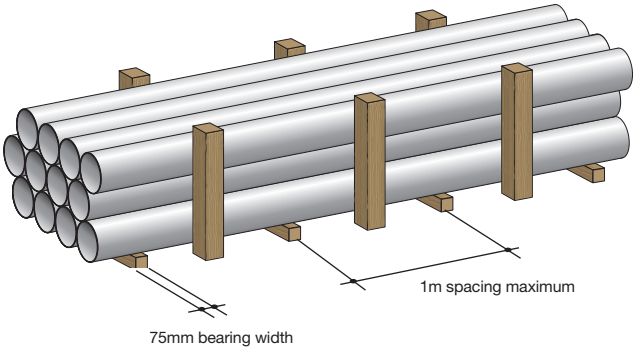


Figure 3: Storage of loose pipe on bearers



Technical Data
Wavin AS

Material

Astolan®; polypropylene, minerally reinforced, resistant to hot water, DIN 4102, B2.

Table 3: Physical Characteristics of Astolan®

Physical Characteristics of Mineral Reinforced Astolan®	
Density	1.9 g/cm^3 3 DIN 53479
Elongation at break	29%
Tensile strength	13 N/mm^2
E-modulus	3800 N/mm^2
Coefficient of thermal linear expansion	0.09 mm/mK
Fire resistancy	DIN 4102, B2
Colour	Light grey RAL 7035

Marking

Wavin AS, nominal diameter, production year, quality mark, approval, material, control mark, fire classification.

Example:
Wavin AS, DN 100, 2002,
Z.-42.1-228, ASTOLAN®, Ü DIN 4102, B2.

Important Note

Some fittings in the Wavin AS range are manufactured from PVC-U. These are:

- Soil Manifold I Bend 87°
- WC Manifold Branches I Single Boss Pipes

Solvent cement should not be applied to Wavin AS pipe and fittings, as minerally reinforced polypropylene WILL NOT BOND TO PVC. PVC-C Waste can be connected via the the universal push-fit connection sockets on the Wavin AS Acoustic Soil fittings.

CONNECT TO BETTER

General Information
Wavin AS

Quality, Standards and Approvals

The British Standards Institution has issued certificates registering Wavin as a firm of assessed capability, with a quality management system which meets the requirements of BS EN ISO 9001.

Wavin systems are the benchmark for excellence and product innovation: precision-manufactured using the most advanced injection moulding and extrusion machines. All products comply with or exceed relevant British and European standards to ensure reliability and long-lasting service.

The Wavin AS System has been tested by the Local Authority Building Control (LABC), who are satisfied that where robust construction details are not to be followed, the use of the Wavin AS System (without a mineral wool wrap) and only a nominal plasterboard encasement should not compromise any acoustic testing of a penetrated floor. Certificate number 377-9-7038, tested in accordance with BS EN 1451.

The Wavin AS System also meets the acoustic requirements of the German standard DIN 4109, achieving a sound performance of under 30dB (A) at 2l/s. The Wavin AS System also has the following worldwide approvals:

Approvals Worldwide	
UK	LABC System Approval, Cert. No. 377-9-7038 Tested in accordance with BS EN 1451
Germany	RAL – quality mark of the Germany Community of Plastic Pipes (GKR), Bonn German Institute of Building (DiBt) – general building inspection approval
Denmark	ETA Denmark VA 2.14 DK 6858
Norway	Godkjenningsnmnda vor Sanitärmateriell Nr. 61-090
Sweden	Boverket DNR 83-4480/90
Australia	Watermark Nr.:MP52 Spec 005
Turkey	Turkish Standards Quality Appropriateness Certificate
Poland	Aprobata techniczna COBRTI INSTAL Nr AT-99-02-0670

LABC System Type Approval

Cert. No. 377-9-7038 Tested in accordance with BS EN 1451

system approval
LABC

Fire Test and Assessment Reports

- Passed and certified to BS 476 part 20 and EN 1366-3
- LANTAC Building Control Approval
- LABC Type Approval

Environment

All Wavin manufacturing sites operate Environmental Management Systems which comply with the requirements of and are certified to ISO 14001: 2004.

Health and Safety

The relevant provisions of the following legislation should be adhered to on site:

- Construction (Design and Management) Regulations 1994
- Control of Substances Hazardous to Health Regulations 1988
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- Manual Handling Operations Regulations 1992

Hazards Associated with PVC-U, PVC-C, Polypropylene and Polyethylene

There are no particular hazards associated with handling, cutting or working with the materials mentioned above, and protective clothing or equipment is not normally required.

Safety Data Sheets covering PVC-U, PVC-C, PP, PE, lubricant, solvent cements and cleaners are available from the Wavin Technical Design Department, please call Technical Enquiries to obtain a copy.

Supply

All systems are supplied through a nationwide network of merchant distributors. For details of your nearest merchant, contact Wavin Customer Services.

Sealing Rings

Where applicable, Sealing Rings are supplied fitted to each component and are included in the price.

Conditions of Sale

Wavin will not accept responsibility for the malfunction of any installation which includes components not supplied by Wavin. Goods are sold subject to Company conditions of sale.

General Information
Wavin AS

Other Wavin Industrial and Commercial Systems

Wavin Tigris K1 Multilayer Press-fit System
High efficiency supply system for potable water, sanitary and heating applications.

- Efficient installation, superlative performance
- Advanced performance Hot & Cold plumbing system designed for potable, sanitary and heating applications in industrial, commercial and other large buildings
- Fully-proven in Europe for over 10 years and now available for selection by specifiers and installers in the UK

Wavin Osma PVC-U Compact Soil System
With its compact 110mm and 160mm soil fittings, the Certus PVC-U Compact Soil System is particularly suitable for installation where space is at a premium

- With both solvent-weld and push-fit connections
- Branches available with rotating bases: enables connections in difficult-to-reach spaces
- Innovative 'stop' position on fitting to prevent waste being installed with a fall less than 2.5º
- Manufactured to BS EN 1329:2001 / BS EN 1453-1:2000

Wavin Osma PVC-C Waste System
A solvent weld waste system designed for higher temperature in service usage

- 32mm, 40mm and 50mm sizes (OD)
- Heat resistant and fire retardant properties
- UV resistance allows exterior as well as interior installation
- Manufactured to BS EN 1566-1:20000
- Manufactured to BS EN 1329:2001 / BS EN 1453-1: 2000

Wavin HDPE Soil and Waste System
Wavin HDPE is a complete soil, waste and vent system of pipes and fittings, manufactured from high-density polyethylene and is suitable for a range of domestic and commercial applications

- Available in sizes from 40-315mm
- Wavin PE guarantees resistance to temperatures of up to 100°C
- Wavin PE is well suited to assemblies subjected to vibration It is therefore ideal for use in seismic zones and across expansion joints
- Available in Wavin's Revit software for BIM

Technical Advice

Wavin AS Acoustic Soil is backed by Wavin's comprehensive technical advice service. This is available to provide expert assistance at every stage of a project, from planning and product selection to installation and maintenance.

Contact Wavin Technical Design Department:

Tel: 0844 856 5165

Email: technical.design@wavin.co.uk or via online enquiry at wavin.co.uk

Literature

The following Wavin publications are also available from the Literature Department at Chippenham.

General

- Wavin Above Ground Systems: Trade Price List

Above Ground Systems

- Osma Soil and Waste:
  Product and Installation Manual
- Osma Rainwater:
  Product and Installation Manual
- Tigris K1:
  Product and Installation Manual
- Hep_2O:
  Product Guide
- Wavin AG Commercial:
  Product Guide
- Wavin Osma Soil and Waste:
  Product Overview
- Wavin HDPE Soil and Waste:
  Product and Installation Manual
- Wavin QuickStream Siphonic Roof Drainage:
  Product Overview

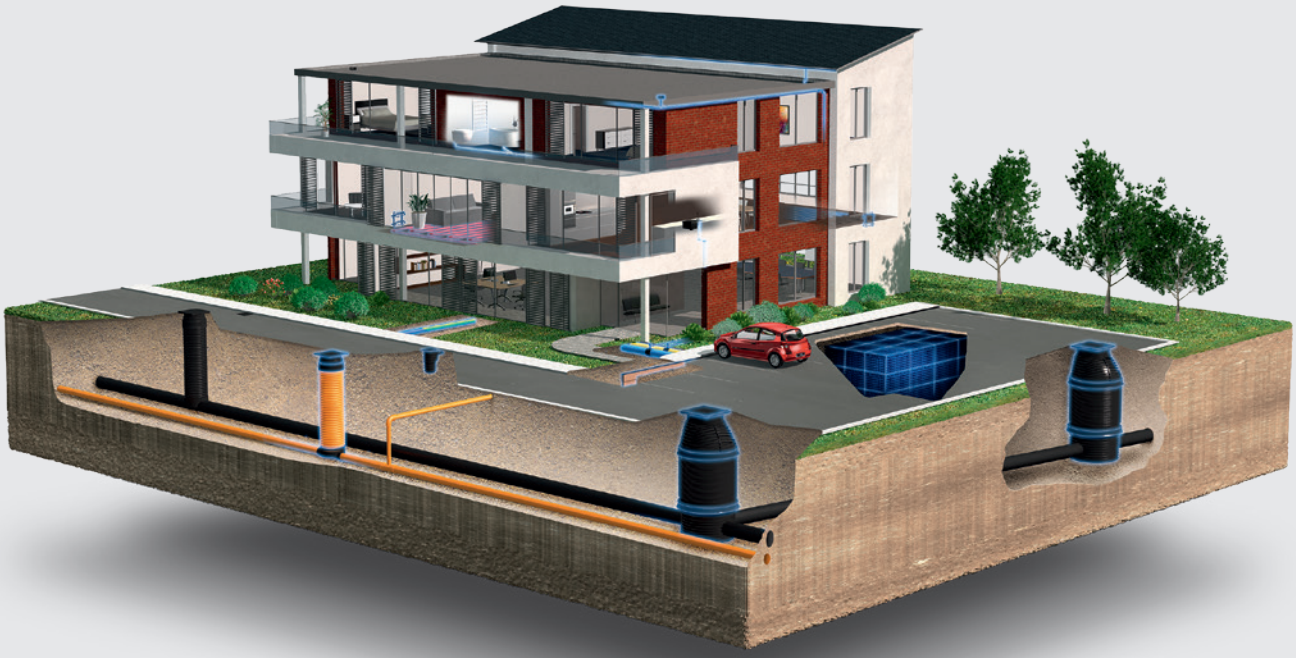
To request details with regards to any of the above components and/or for any technical enquires please contact:

Literature Request
Tel: 01249 766333
Email: literature@wavin.co.uk

Technical Design
Tel: 0844 856 5165
Email: technical.design@wavin.co.uk

Wavin Online
The complete range of Wavin/Osma product and installation guides are also available online at: wavin.co.uk

Discover our broad portfolio at
www.wavin.co.uk



Water management | Plumbing and heating | **Waste water drainage**
Water and gas distribution | Cable ducting

Mexichem.
Building & Infrastructure

wavin
CONNECT TO BETTER

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For further product information visit: wavin.co.uk

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