

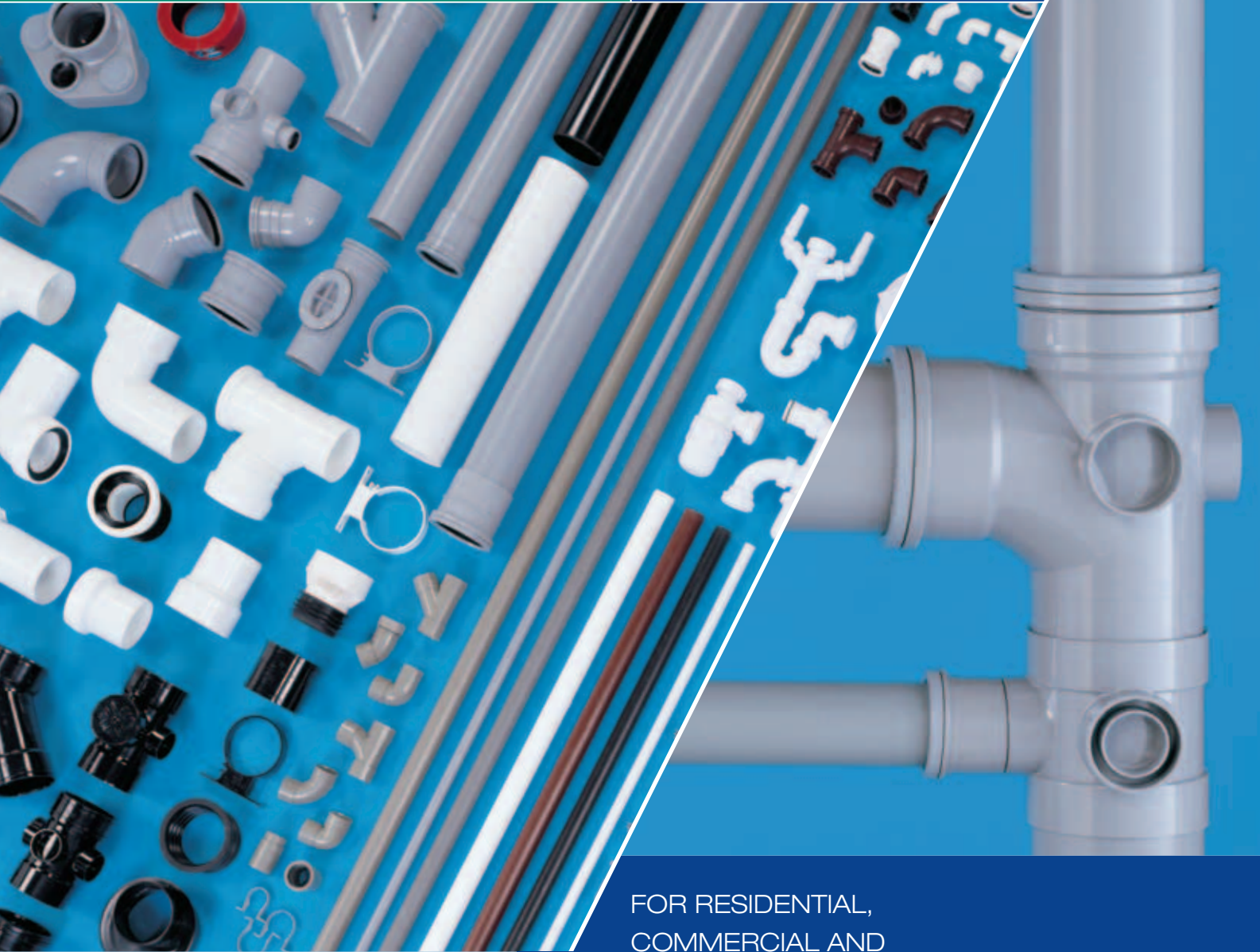


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September 2005	SW207		

Soil & Waste Systems

Design & Installation Guide



FOR RESIDENTIAL,
COMMERCIAL AND
INDUSTRIAL APPLICATIONS

Intelligent Solutions for

Above Ground Projects

OSMA

From Wavin

OSMA, from Wavin Plastics Limited, is the leading name in plastic systems for building, construction and utilities. The OSMA product range is unrivalled in scope and quality, covering:

- Above Ground systems
- Plumbing and Heating systems
- Below Ground Drainage systems
- Water Management systems
- Ducting systems
- Water and Gas Distribution systems

Quality assured products

OSMA systems are the benchmark for excellence and product innovation: precision-manufactured in the UK 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.

Intelligent connections

OSMA systems offer integrated solutions. This enables specifiers and installers to assemble complete drainage, plumbing and heating, and pressure pipe systems from a single source, with complete confidence in compatibility and performance.

All systems are backed by comprehensive technical support and a nationwide distribution network to ensure availability when and where required.

Wavin is a leading European manufacturer of industrial plastic products, and one of the largest producers of plastic pipe and fittings in the world.

Wavin is credited with inventing and pioneering the use of plastic pipe for water distribution in the mid 1950s. Constant research and development has enabled Wavin to maintain its position at the forefront of plastics technology.

Environmental responsibility

Wavin Plastics Limited has BS EN ISO 9001:2000 Registered Firm status and was the first plastic pipe manufacturer to be accredited to BS EN ISO 14001 Environmental Management Systems.

Wavin Plastics Limited is committed to environmental responsibility, and is a leading pioneer of systems to conserve and control water. In production, the Company recycles the majority of waste materials, and sets annual targets for energy efficiency audited by the certifying body.

Passion and resourcefulness

All Wavin personnel are committed to providing a comprehensive, responsive service – and are passionate about delivering total Customer satisfaction.

Wavin Plastics Limited maintains an industry-wide dialogue and rigorous assessment of all procedures to ensure that Wavin product development and product support accurately addresses the needs of all Customers – today and into the future.



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Further information

The following related publications are available for OSMA Soil & Waste systems:

■ Product Guide

■ Above Ground systems Trade Price List

To obtain copies, please contact:

Literature Requests

Tel: 01249 766333

Fax: 01249 766332

Email: literature@wavin.co.uk

Introduction to the range

SOIL SYSTEMS

The OSMA range offers a choice of two soil systems to meet performance and installation requirements for all types of building, from single dwellings to large residential, commercial or industrial premises.

In addition, OSMA WC Connectors provide efficient and reliable connection for all WC layouts.

Soil Systems

PVC-U Ring-Seal

Soil System: OsmaSoil

- Simple-to-use system: saves time and site costs
- Quick, efficient assembly by means of push-fit jointing and some solvent joints
- Available in 82, 110 and 160mm diameters
- Colour choice: Black, Grey, White and Brown (*dependent on size/component*)
- Manufactured in PVC-U to BS EN 1329-1:2000



Table 1: PVC-U Ring-Seal Soil system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
82	82.4	82.8	3.2	3.5	1.22
110	110.0	110.4	3.2	3.5	1.64
160	160.0	160.6	3.2	3.5	2.44

Table 2: PVC-U Ring-Seal Soil system: Socket Dimensions (mm)

Nominal Size	Internal Depth		Maximum Outside Diameter Ring-seal	Maximum Outside Diameter Solvent-weld
	Ring-seal	Solvent-weld		
82	51	43	104	89
110	65	48	132	118
160	88	58	192	168

Soil Systems

PVC-U Solvent Weld Soil System: OsmaSoil

- A secure method of jointing
- 110 and 160mm pipes and fittings
- Colour choice: Black, Grey, Olive, White and Brown (*dependent on size/component*)
- Manufactured in PVC-U to BS EN 1329-1:2000



Table 3: PVC-U Solvent Weld Soil system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
110	110.0	110.4	3.2	3.5	1.64
160	160.0	160.6	3.2	3.5	2.44

Table 4: PVC-U Solvent Weld Soil system: Socket Dimensions (mm)

Nominal Size	Internal Depth		Maximum Outside Diameter	
	Without Expansion Cap	With Expansion Cap	Without Expansion Cap	With Expansion Cap
110	48	65	121	126
160	58	86	172	177

WC Connectors

PVC-U WC Connectors

Connectors for all WC configurations, including OSMA WC Manifold Branches, designed to connect up to 8 WCs onto 1 float.



Introduction to the range

WASTE SYSTEMS

Two push-fit joint systems and two solvent weld systems are available to meet all waste requirements.

The systems fully co-ordinate with OSMA Soil systems and V-Joint Traps.

Waste Systems

ABS Solvent Weld Waste System: OsmaWeld

- 32, 40 and 50mm pipes and fittings
- Colour choice: Grey and White
- Manufactured in ABS (Acrylonitrile Butadiene Styrene) to BS 5255:1989



Table 5: ABS Solvent Weld Waste system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
32	36.15	36.45	1.8	2.2	0.23
40	42.75	43.05	1.9	2.3	0.28
50	55.75	56.05	2.0	2.4	0.40

Table 6: ABS Solvent Weld Waste system: Socket Dimensions (mm)

Nominal Size	Internal Depth	Maximum Outside Diameter
32	18.16	41
40	21.46	48
50	27.24	61

Waste Systems

MUPVC Solvent Weld Waste System

- 32, 40 and 50mm pipes and fittings
- Colour choice: Black, Olive, White and Brown
- Fire retardant properties
- Manufactured in MUPVC (Modified Unplasticized Polyvinyl Chloride) to BS 5255:1989



Table 7: MUPVC Solvent Weld Waste system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
32	36.15	36.45	1.8	2.2	0.29
40	42.75	43.05	1.9	2.3	0.36
50	55.75	56.05	2.0	2.4	0.50

Table 8: MUPVC Solvent Weld Waste system: Socket Dimensions (mm)

Nominal Size	Internal Depth	Maximum Outside Diameter
32	18.16	41
40	21.46	48
50	27.24	62

Introduction to the range

WASTE SYSTEMS

Two push-fit joint systems and two solvent weld systems are available to meet all waste requirements.

The systems fully co-ordinate with OSMA Soil systems and V-Joint Traps.

Waste Systems

PP Push-Fit Waste System (BS EN 1451-1)

- Simple-to-use system: saves time and site costs
- Quick, efficient assembly by means of push-fit jointing
- 32, 40 and 50mm pipes and fittings
- Colour choice: Black, Grey, Brown and White (32 and 40mm versions)
50mm: Grey and White
- Manufactured in Polypropylene to BS EN 1451-1:2000

NOTE: This range was formerly known as BS 5254 Waste



Table 9: PP Push-Fit Waste system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	DN/OD*	Outside Diameter		Wall Thickness		Average Weight (kg/m)
		Min	Max	Min	Max	
32	34	34.4	34.8	1.8	2.2	0.187
40	41	40.8	41.2	1.9	2.3	0.225
50	54	53.9	54.3	2.0	2.4	0.335

Table 10: PP Push-Fit Waste system: Socket Dimensions (mm)

Nominal Size	DN/OD*	Internal Depth	Maximum Outside Diameter
32	34	33	49
40	41	34	55
50	54	36	70

*DN/OD as stated in BS EN 1451-1 Standard

Waste Systems

PP Push-Fit Waste System: ClearBore (BS 5255)

- Simple-to-use system: saves time and site costs
- Quick, efficient assembly by means of push-fit jointing
- 32, 40 and 50mm pipes and fittings
- Colour: White only
- Manufactured in Polypropylene to BS 5255:1989



Table 11: PP Push-Fit Waste system BS 5255: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
32	36.15	36.45	1.8	2.2	0.19
40	42.75	43.05	1.9	2.3	0.24
50	55.75	56.05	2.0	2.4	0.34

Table 12: PP Push-Fit Waste system BS 5255: Socket Dimensions (mm)

Nominal Size	Internal Depth	Maximum Outside Diameter
32	36	49
40	36	56
50	53	72

Traps

V-Joint Traps

- 32, 40 and 50mm diameter domestic traps and accessories
- For use with all OSMA waste systems and with copper pipe
- Comprehensive range including tubular, bottle, bath and washing machine traps, and shower gullies
- Colour: White only
- Manufactured in Polyethylene to BS 3943:1983
- BS EN 1451-1:2000 plastic pipe should be first warmed in hot water before connection is made to the trap



Table 13: V-Joint Traps: Socket Dimensions (mm)

Nominal Size	Internal Depth	Maximum Outside Diameter
32	39	60
40	40	66
50	49	78

Overflow Systems

PVC-U Solvent Weld Overflow System: OsmaWeld

- 19mm solvent weld system
- Colour choice: Grey and White
- Manufactured in PVC-U

Table 14: PVC-U Solvent Weld Overflow system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
19	22.9	23.2	1.3	1.6	0.145

Table 15: PVC-U Solvent Weld Overflow system: Socket Dimensions (mm)

Nominal Size	Internal Depth	Maximum Outside Diameter
19	18	27

PP Push-fit Overflow System: ClearBore

- 19mm push-fit system
- Colour: White only

Table 16: PP Push-Fit Overflow system: Pipe Dimensions (mm) and Weights (kg/m)

Nominal Size	Outside Diameter		Wall Thickness		Average Weight (kg/m)
	Min	Max	Min	Max	
19	21.64	21.89	1.2	1.4	0.075

Table 17: PP Push-Fit Overflow system: Pipe Dimensions (mm)

Nominal Size	Internal Depth	Maximum Outside Diameter
19	27	26

Typical Assembly

Fig. 1 Typical stack assembly – Ring-Seal system

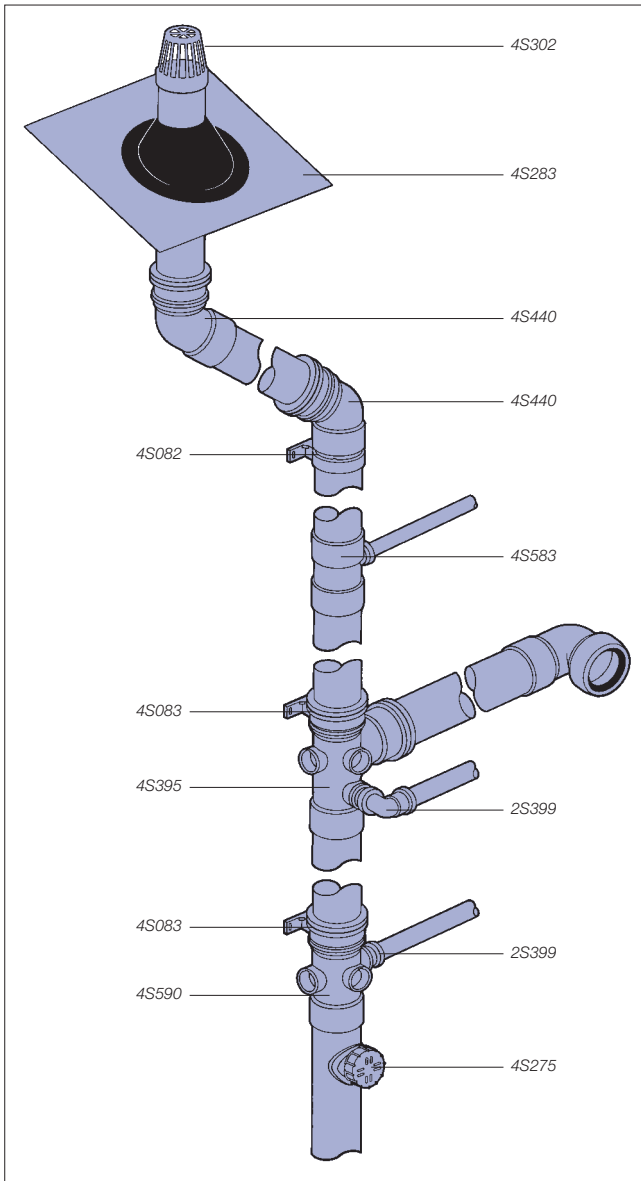
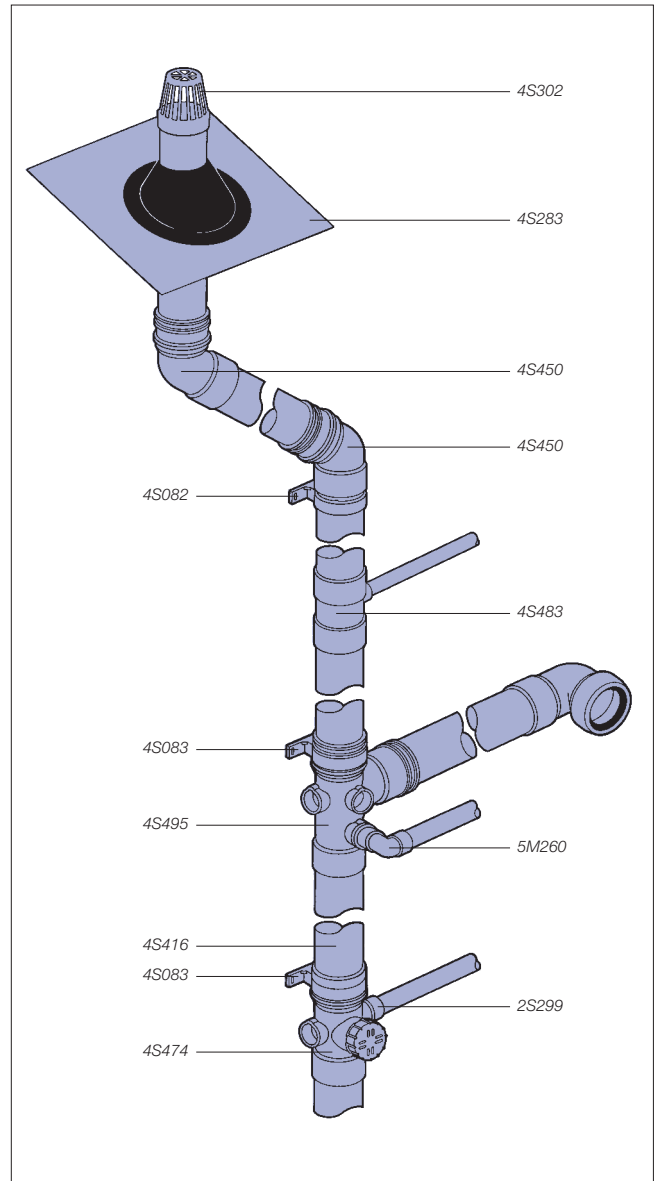


Fig. 2 Typical stack assembly – Solvent Weld system



Applications

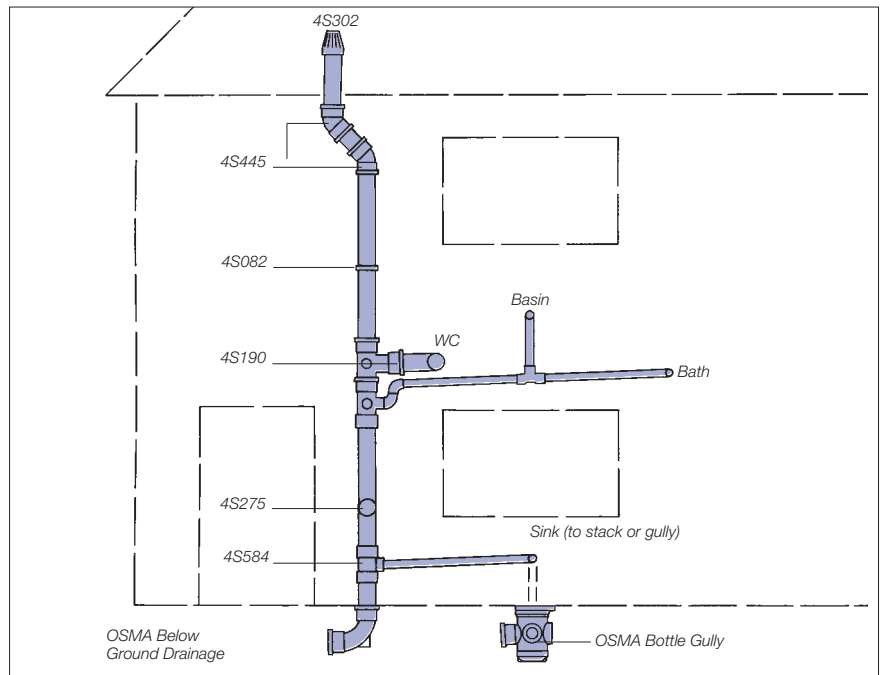
General principles

OSMA Soil & Waste systems are designed to convey soil drainage and waste safely away from appliances to a soil stack or drain (see Fig. 3). The systems are suitable for above ground sanitary fittings and appliances in domestic, commercial and public buildings. However, special requirements may apply to some trade wastes including:

- High temperature and chemical effluent
- Discharges from hospitals and laboratories

For maximum operating temperatures, see **Materials: Properties and Performance**, page 28.

Fig. 3 Typical layout for Soil & Waste



Pipe Sizing

Soil systems

Stack

The internal diameter of a discharge stack should not be less than that of the largest trap or appliance discharging into it.

EXAMPLE: If a WC trap diameter is 110mm, the discharge stack must be minimum diameter 110mm.

Vent

Dry sections of vent pipe should typically have the same internal diameter as the discharge stack. However, for 1- or 2-storey houses, the dry section may be 75mm diameter without affecting performance.

Waste systems

The internal diameter of the waste pipe should not be less than that of the largest trap or appliance discharging into it.

Minimum tubular trap sizes are given in Table 18 opposite.

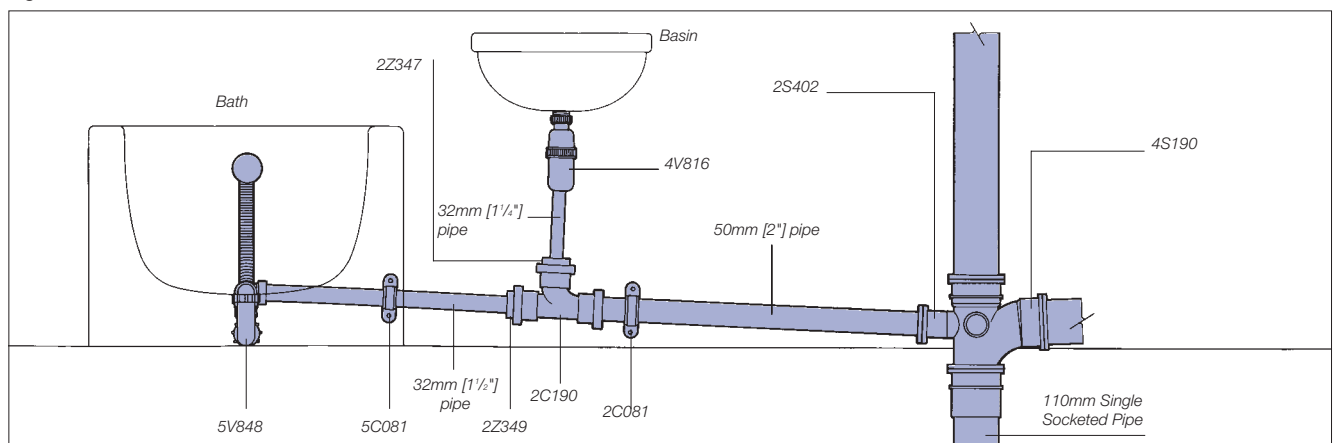
Combined waste systems

Waste pipe diameters should be increased at the point where waste from two appliances meet (see Fig. 4).

Table 18: Minimum Tubular Trap Sizes

Type of Appliances	Size of Trap (mm)
Wash Basin	32
Bidet	32
Sink	40
Bath	40
Shower	40
Urinal (bowl)	40
Urinal (slabs 1-7)	65
Washing machine	40

Fig. 4 Combined waste connection to soil stack



Maximum Pipe Runs

Waste systems

The maximum recommended pipe run from trap to stack, serving single or combined appliances, is as follows:

- 3m for 40mm pipe
- 4m for 50mm pipe

If the pipe run exceeds the recommended maximum lengths above, an increased risk of blockage and/or siphonage may occur:

- The pipe run must be vented to prevent self-siphonage or induced siphonage. See page 25 for details of use of **OSMA Air Admittance Valve 4S303**
- Access to be provided wherever possible
- Provision for thermal movement is required in the case of Solvent Weld systems (see below)

Thermal Movement

Push-Fit systems

Correctly made and anchored ring-seal/push-fit joints will accommodate thermal movement with no requirement for expansion fittings.

Solvent Weld systems

(see Fig. 5)

Provision for thermal movement is required:

- For all pipe runs over
 - 3m for 32, 40 or 50mm pipe
 - 4m for 82, 110 or 160mm pipe
- Between any two fixed points 1m or more apart

Fixed points include:

- Fittings supported by socket brackets
- Changes of direction
- Branches from other appliances

Pipe brackets allow the movement of pipework between fixed points whilst keeping the pipework steady.

The following components are available for the creation of thermal expansion joints:

COMPONENTS

PVC-U Solvent Weld Soil system:

Expansion Cap 4S416 (110mm) and **6S416** (160mm)

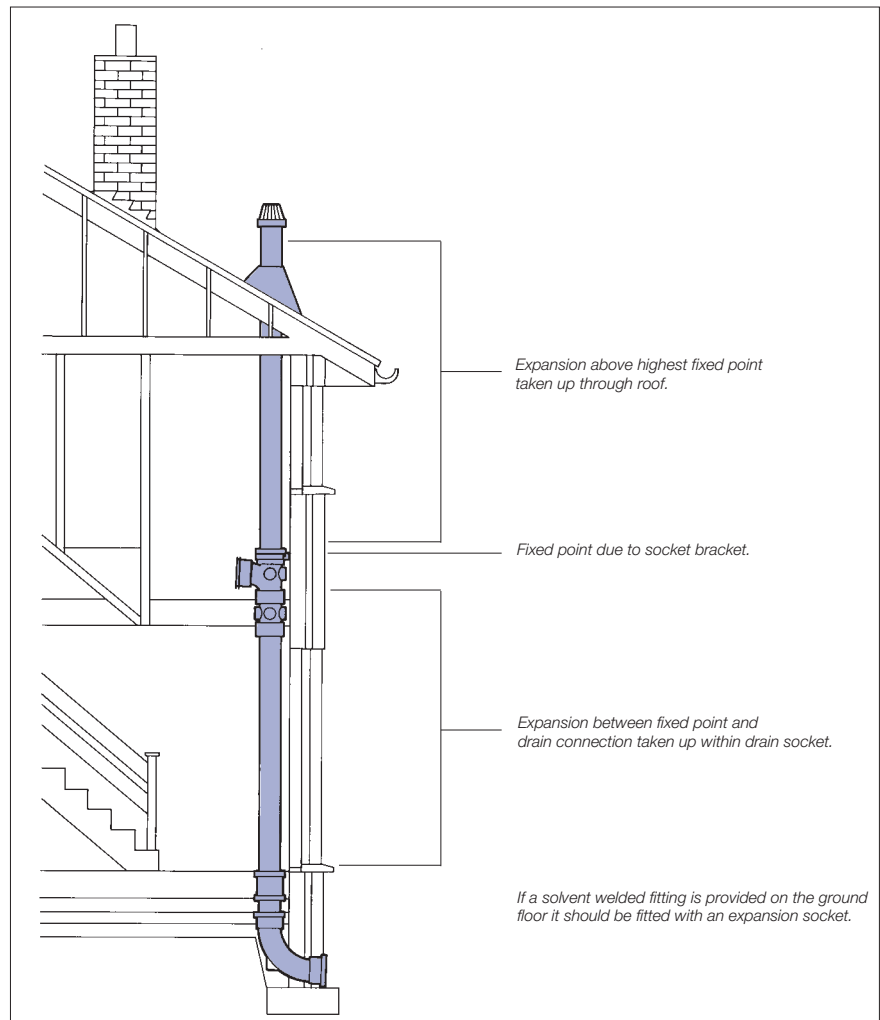
ABS Solvent Weld Waste system:

Expansion Socket 4Z/5Z/2Z124

MUPVC Solvent Weld Waste system:

Expansion Socket 4M/5M/2M124

Fig. 5 Thermal movement requirements for a Solvent Weld Soil system



Pipe Support

Support centres

Pipe should be supported in accordance with **Table 19** below showing maximum support centres for pipes installed vertically and horizontally.

Brackets are available to meet all support requirements for OSMA Soil & Waste systems.

Table 19: Maximum Pipe Support Centres

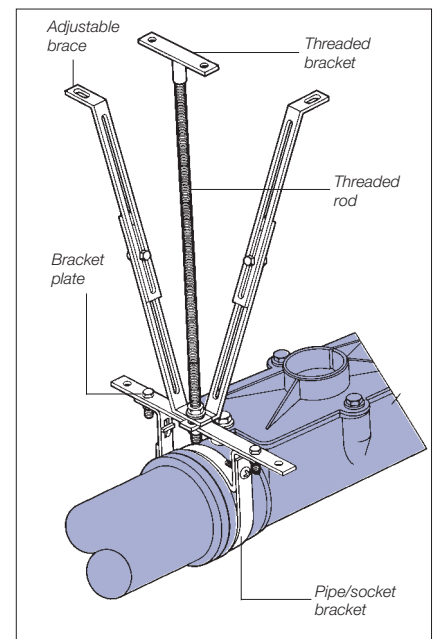
Pipe Size (mm)	Centres (m)	
	Vertical	Horizontal
19	0.5	0.5
32	1.2	0.5
40	1.2	0.5
50	1.2	0.6
82	2	1
110	2	1
160	2	1.2

Suspended pipework

Bracket assemblies are available for suspended sanitary and drainage installations within a building.

The Suspended Bracketing system (see *Fig. 6*) offers socket or pipe bracketing in 110mm and 160mm sizes and is adjustable to accommodate pipe falls. For installation details see page 32.

Fig. 6 Suspended bracketing – socket support



Access

Access points should be provided to enable all pipework to be tested and maintained effectively. To facilitate use of testing and cleaning equipment, access points should be positioned so that:

- Building structures such as walls and ducts do not impede use of the equipment
- No danger or nuisance is likely if leakage should occur

This can be achieved by positioning access points above the spill-over levels of any pipework which may be affected by blockages.

Access fittings

A wide range of access fittings are available, including access pipes, bends and branches. See **Soil & Waste Systems Product Guide** for full details.

Access may also be created at an appropriate position in 110mm pipe by installing **Access Saddle 4S275** (see *Fig. 7*). This fitting can also be installed post construction. For installation details see page 34.

Access to ranges of WCs

Branch pipes serving ranges of WCs should incorporate access points:

- At the head of the run
 - Wherever the pipe changes direction
- Venting of these branch pipes is not normally necessary, except:
- Where more than 8 WCs are being served
 - Where there are several changes of direction

Urinals

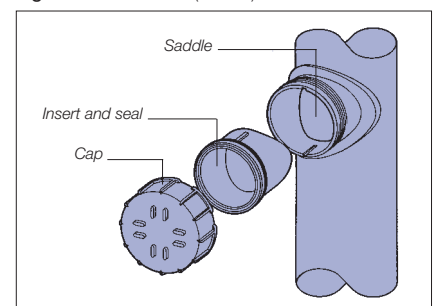
Waste pipe serving urinals can be subject to build up of deposits, especially in areas of hard water:

- Make provision for access to all areas of the waste system
- Keep pipe runs as short as possible: less than 3m is recommended

To increase self-cleansing, it is advisable for wash basins with resealing bottle traps to discharge into the waste system.

See *BS EN 12056:2000* for provision of access.

Fig. 7 Access Saddle (4S275)



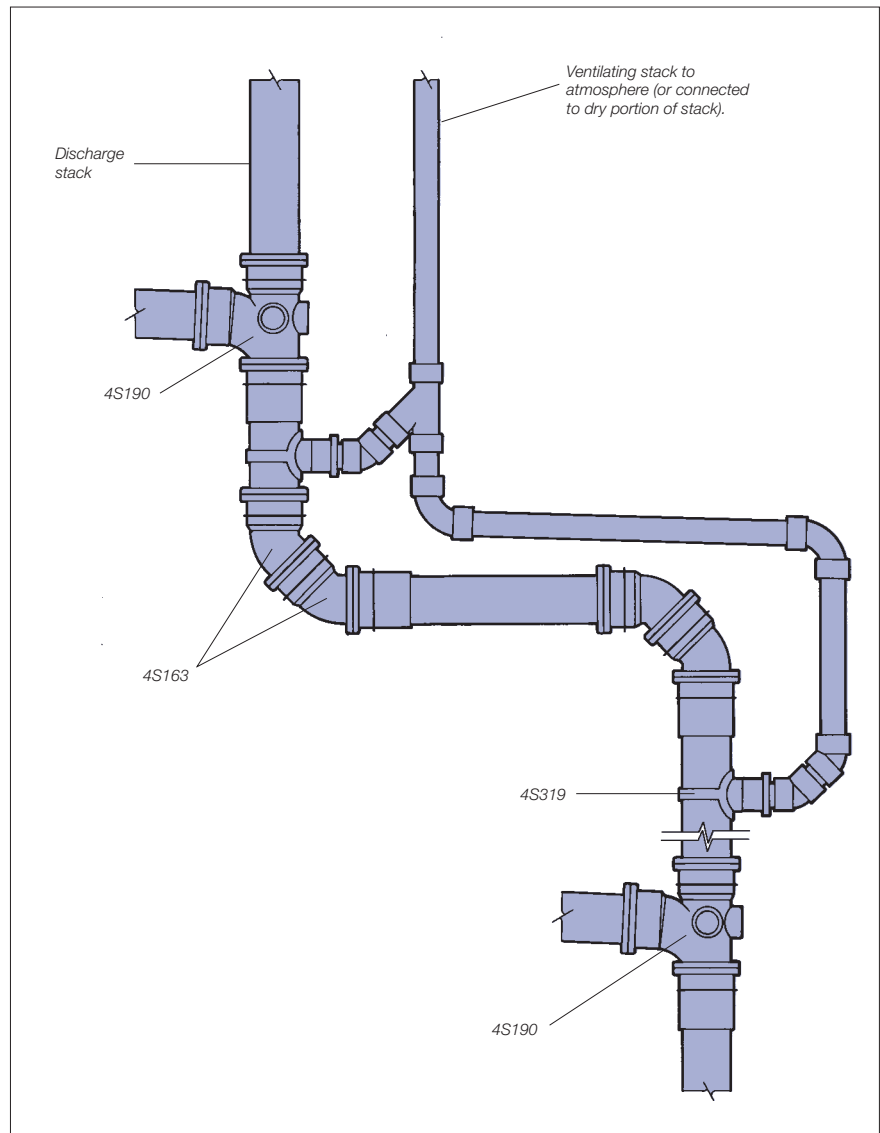
Offsets

Offsets are permitted in the dry portion of the stack and do not require venting.

Offsets in the wet portion of a stack should ideally be avoided. Where this is unavoidable, use large radius bends.

A secondary ventilation stack may be necessary to connect above and below the offset, to reduce siphonage threat to traps. The diameter of this ventilation stack pipework is typically half that of the discharge stack. (see Fig. 8)

Fig. 8 Ventilation stack to atmosphere



Connections to Drainage

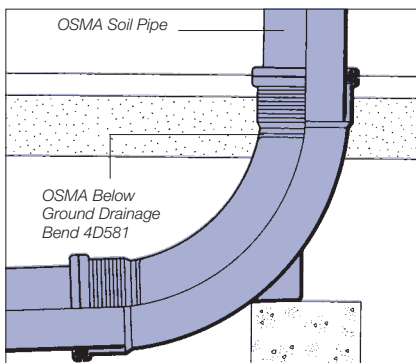
OSMA systems include couplers, connectors and adaptors to enable direct connection of OSMA Above and Below Ground Drainage Pipes, and to other systems made of PVC-U, cast iron and clay.

Connections to PVC-U

110mm OSMA Soil Pipe connections to PVC-U drainage pipes are straightforward using ring seal/push-fit Jointing and OSMA Below Ground Drainage fittings.

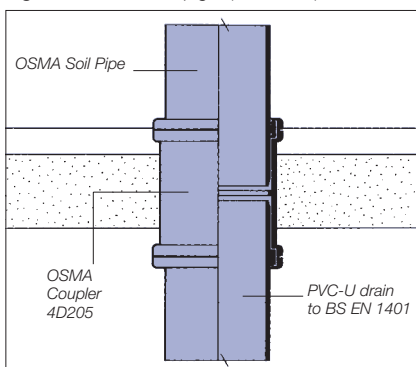
■ **Via Bend 4D581**

Fig. 9 PVC-U drain socket (via 4D581)



■ **Via Coupler 4D205**

Fig. 10 PVC-U drain spigot (via 4D205)



Connections to other materials

OSMA Soil connections to non-plastic drainage materials include:

- To Clay
 - To clay drain socket via **Connector 4S107**
 - To thinwall clay drain pipe spigot via **Adaptor 4D129**
- To Cast Iron
 - To CI drain socket via **Connector 4S107**
 - To CI soil socket via **Connector 4S106**
OR **Connector 4S206**
 - To CI soil spigot via **Connector 4S134**
and **Gasket 4S119**

For illustrations and detailed guidance on installation and connection procedures see page 33.

Connections to Drainage continued

Waste to drain connections

Waste pipes can be connected to below ground drainage by using Boss Socket Adaptors. For typical arrangements see Figs. 11-13.

Fig. 11 Typical waste connection to Sealed Hopper

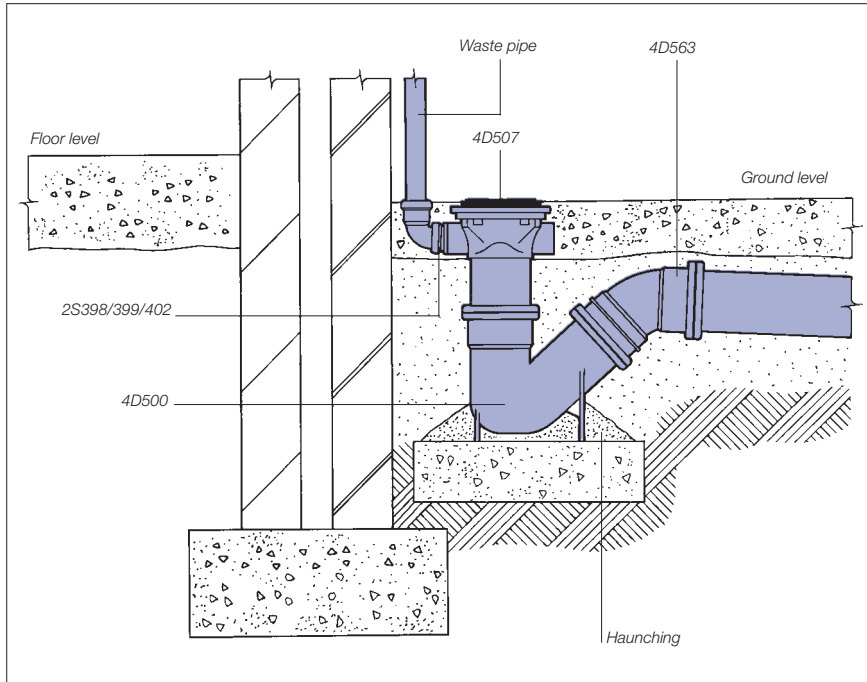


Fig. 12 Typical internal waste pipe connection to drain

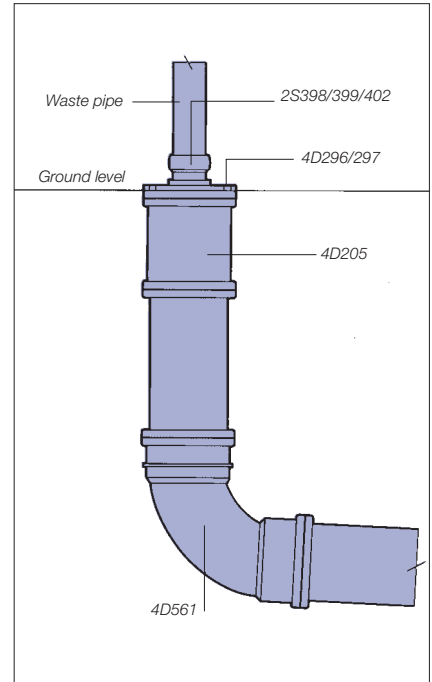
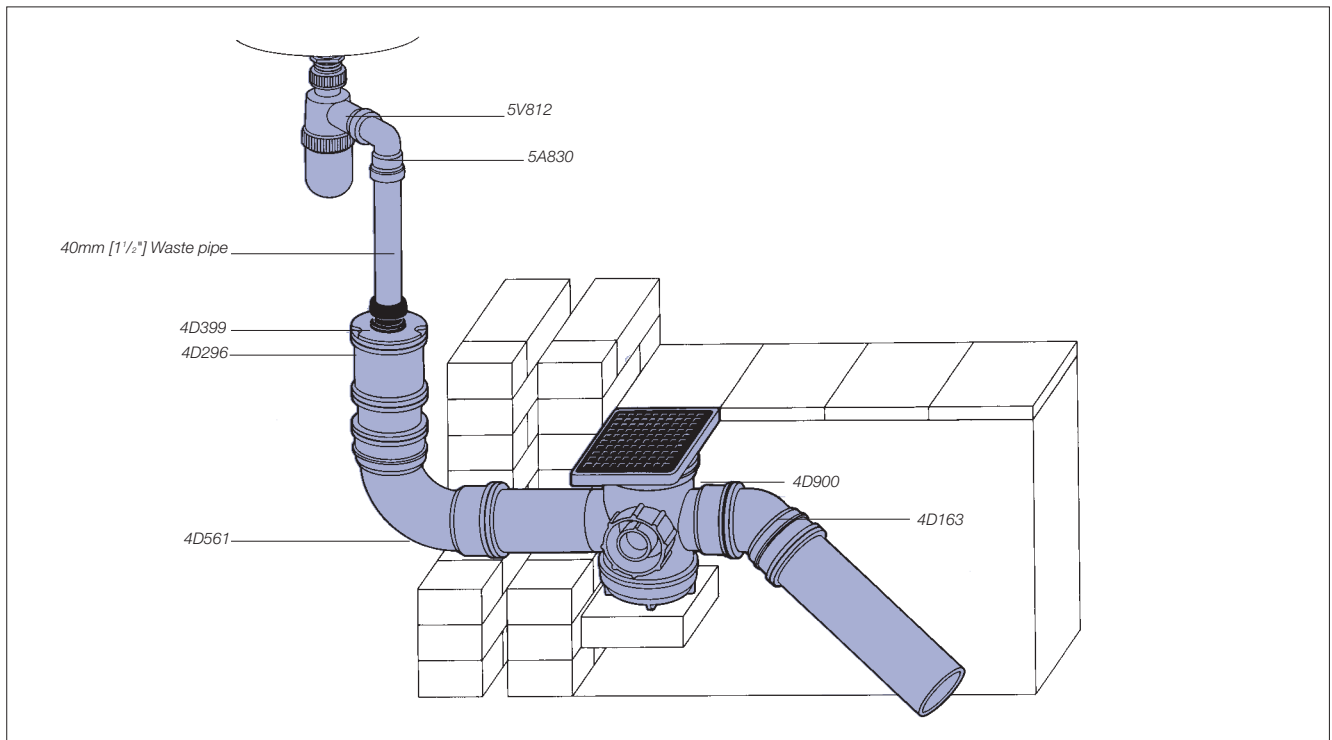


Fig. 13 Typical waste pipe connection to Bottle Gully



Connections to Waste

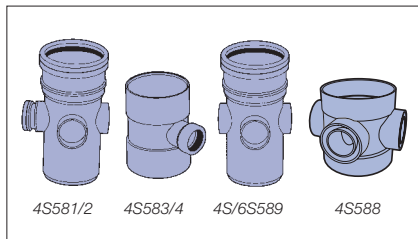
Bossed fittings

Waste discharge pipework can be connected to the soil stack via a comprehensive range of Bossed Pipes and Bossed Branches, including:

- Single Bossed Pipes with one open boss socket
- Bossed Pipes with one open boss socket and three closed boss sockets
- Bossed Branches with up to five closed boss sockets (see Fig. 14)

Discharge pipework feeding into the stack must be carefully designed to ensure safe flow and prevent cross flow. See *Prevention of cross flow opposite*.

Fig. 14 Alternative Bossed Branches



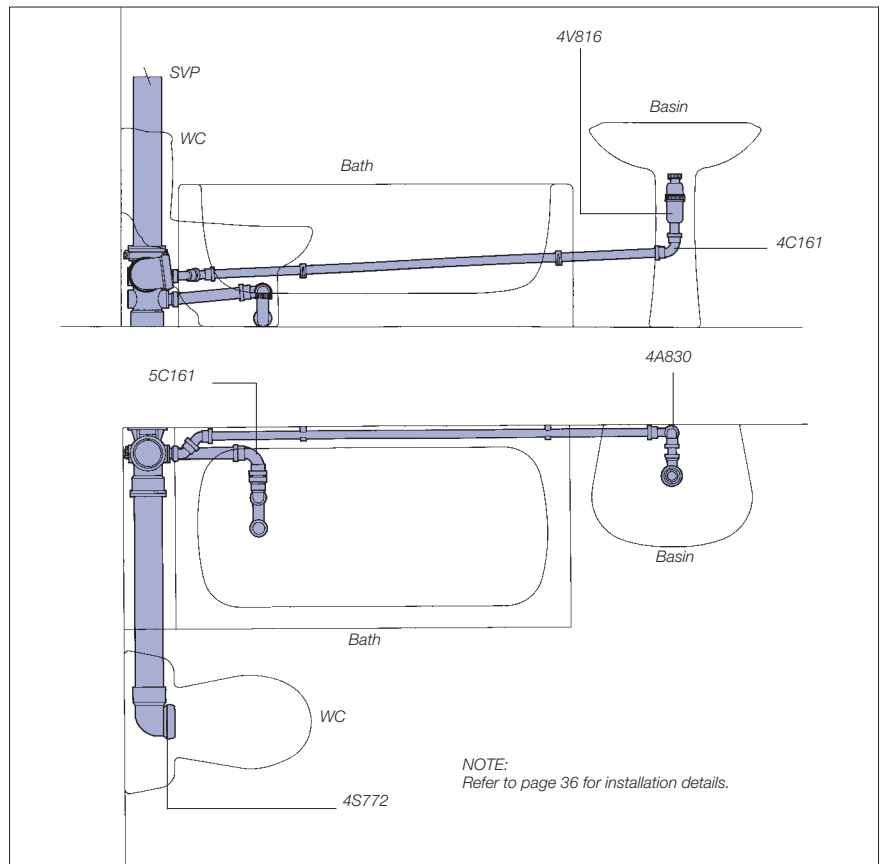
Boss sockets

Closed boss sockets may be opened using a standard 50mm hole cutter. Boss Socket Adaptors are available with either push-fit sockets or solvent weld sockets:

- Push-fit: to enable connection to BS EN 1451-1 and BS 5255 plastic waste pipes, and/or BS 659 and BS 2871 copper waste pipes
- Solvent weld: to enable connection to ABS and MUPVC pipe manufactured to BS 5255

All horizontal Boss Socket Adaptors have an in-built fall of 2 1/2° and a locating key at the top to ensure correct orientation.

Fig. 15 Typical bathroom layout

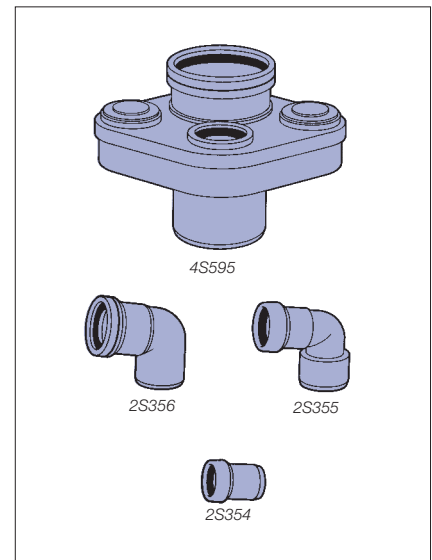


Connections at floor level

The **OsmaLink Soil Manifold 4S595** provides a simple method for connection of multiple waste pipes at floor level. The system is particularly suitable for use in flats and other multi-storey developments (see Fig. 16).

With a right-angled back and compact, unobtrusive design, the OsmaLink Soil Manifold fits neatly in any corner and permits simple push-fit waste connection via standard **Adaptors 2S356/355/354**. Its integral socket allows push-fit connection of a branch or soil pipe. For installation details see page 37.

Fig. 16 OsmaLink Soil Manifold system



Connections to Waste continued

Connections – after construction

Strap Bosses offer a low cost means of connecting waste pipes from basins, baths, bidets and showers to soil discharge pipework after construction.

However, Strap Bosses are not recommended for use where high temperature discharges are likely (e.g. from kitchen sink wastes).

For installation details see page 36.

Permitted connections

Bossed Branches have a maximum of five socket positions. Two waste pipes may be connected to one side, or one waste pipe may be connected to each side, provided both connections are at the same level (see Fig. 17).

Single connections are also possible at the side and rear of the Branch.

Connections NOT permitted

Offset connections to each side of the Branch are NOT permitted (see Fig. 18).

Fig. 17 Permitted connections

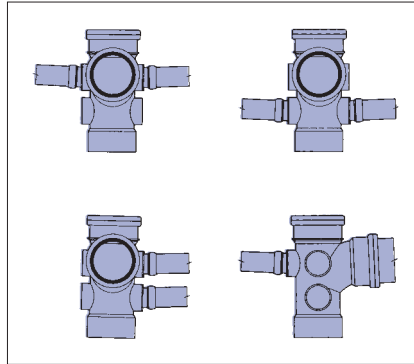
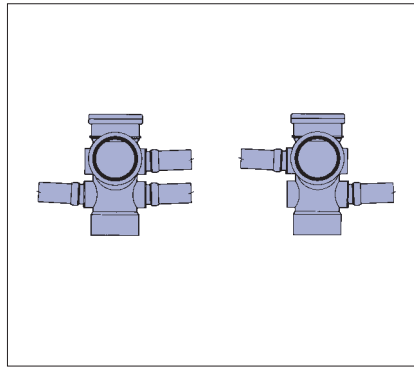


Fig. 18 Connections NOT permitted



Prevention of cross flow

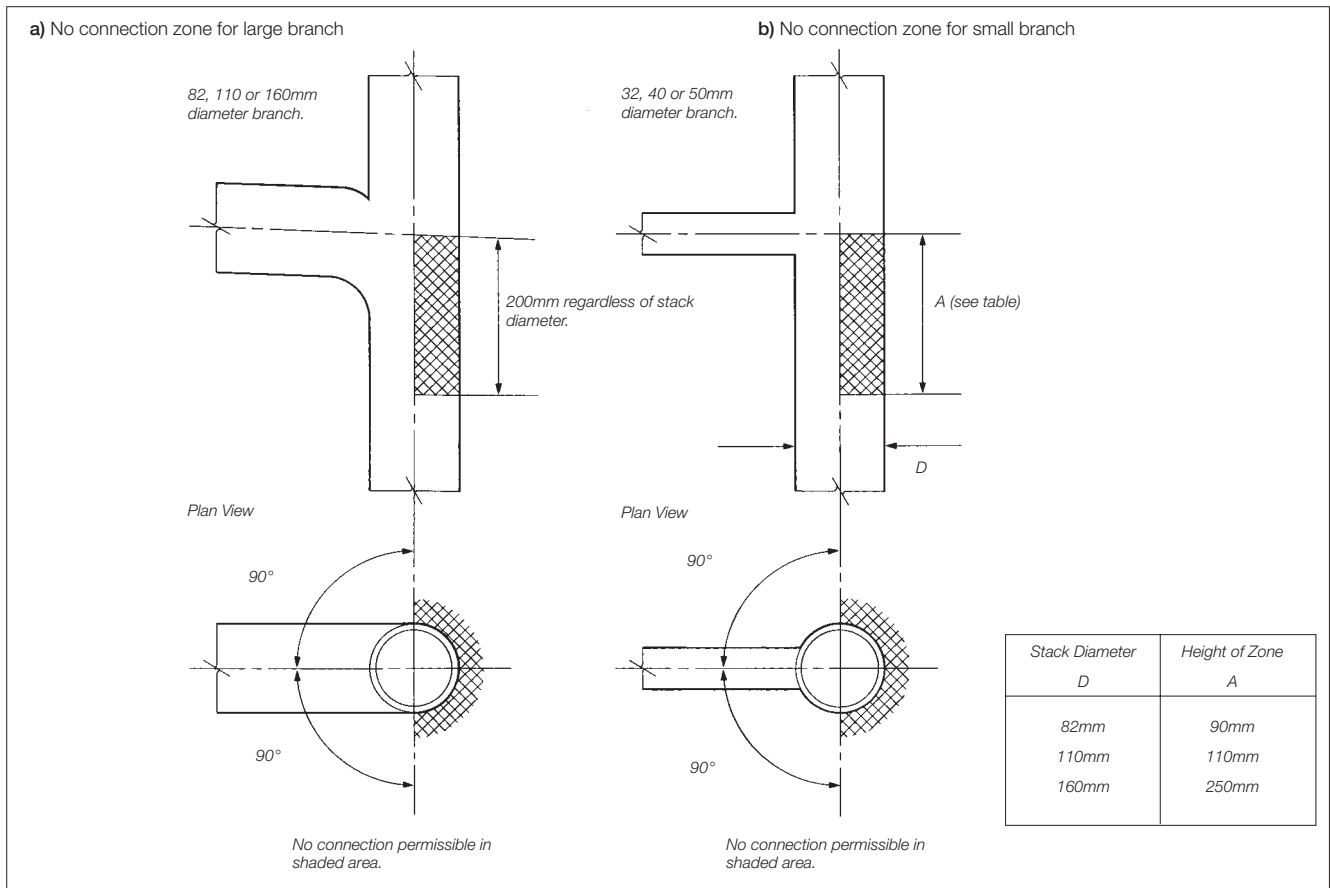
(see Fig. 19)

Oposing connections to the stack are permitted provided that they are made:

- At the same centre line
- On or outside the edge of the connection zone created by any branch connection

See BS EN 12056:2000 for the prevention of cross flow.

Fig. 19 Prevention of cross flow



Connections to WCs

WCs manufactured to BS 5503

OSMA Soil systems includes a wide range of white WC Connectors and bends for direct connection to WCs manufactured to BS 5503.

PVC-U 110mm Fittings

Available in 2 1/2°, 14° and 90° angles, each fitting has:

- Integral EPDM gasket for push-fit connection to the WC outlet (see Fig. 20)
- Plain end (spigot) or solvent socket for connection to soil pipe/drain

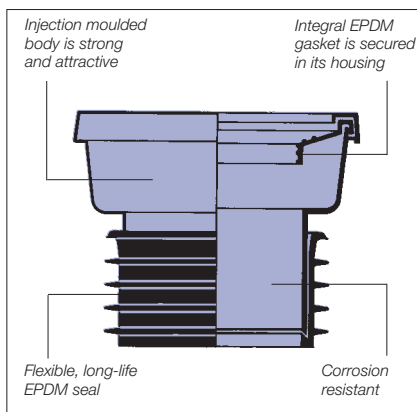
For extension of a connector to overcome varying distances between WC spigot outlet and soil pipe/drain, **S/S Long Tail Bend 4S790** may be added and cut to length. NOT to be used as WC Connector alone (see Fig. 21). 90° Connectors with access are also available for ground floor installations.

Easy-Fit Pan Connectors 3 1/2" and 4"

Available in straight, offset, 14° and 90° configurations, each fitting has:

- Integral EPDM gasket for push-fit connection to the WC outlet
- Integral EPDM seal for push-fit into 110mm plastic pipe, or 102mm cast iron pipe to BS 416 (see Fig. 22)

Fig. 22 Easy-Fit Pan Connector



WCs manufactured to BS 1213

Connectors and bends are available for straight connection direct to WC outlets (manufactured to BS 1213) when fitted with **WC Gaskets 4S121** (for 4-4 1/2" WC spigot) or **4S120** (for 4 1/2-4 1/2" WC spigot).

Fig. 20 Connection to ground floor WC

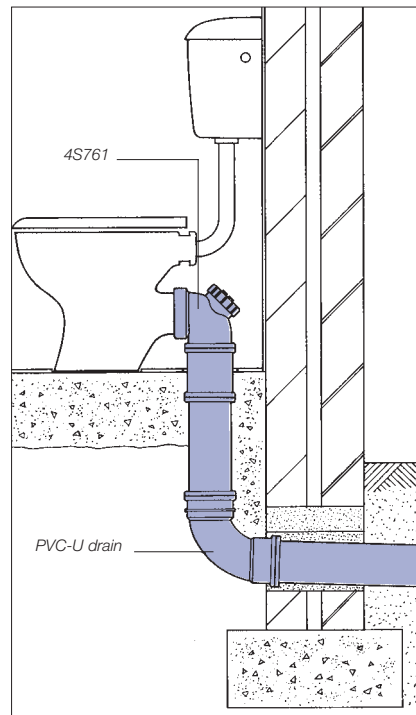
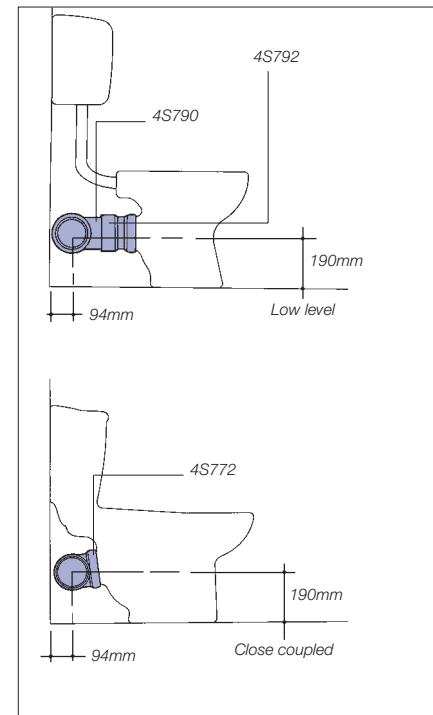


Fig. 21 Alternative connections to WCs



WCs back-to-back

OSMA **Corner Branch - 87 1/2° 4S291/491** enables connection of back-to-back WCs to drain (see Figs. 23/24).

Fig. 23 Back-to-back WC installation

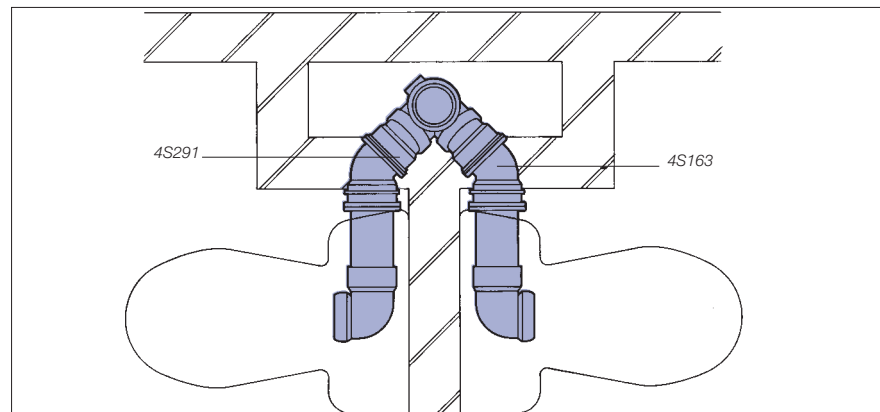
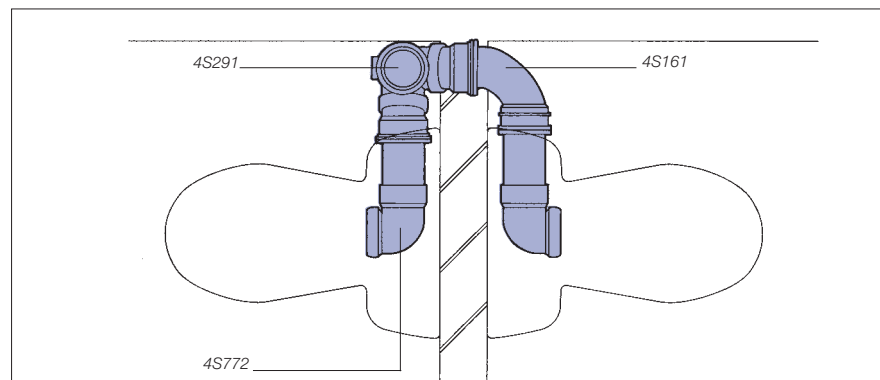


Fig. 24 Alternative back-to-back WC installation



Connections to WCs continued

WC connections direct to drainage

WCs may be connected direct to a drain. Venting will not be required provided that the distance from the crown of the trap to the invert of the drain does not exceed 1.5m (see Fig. 20).

Stub stacks

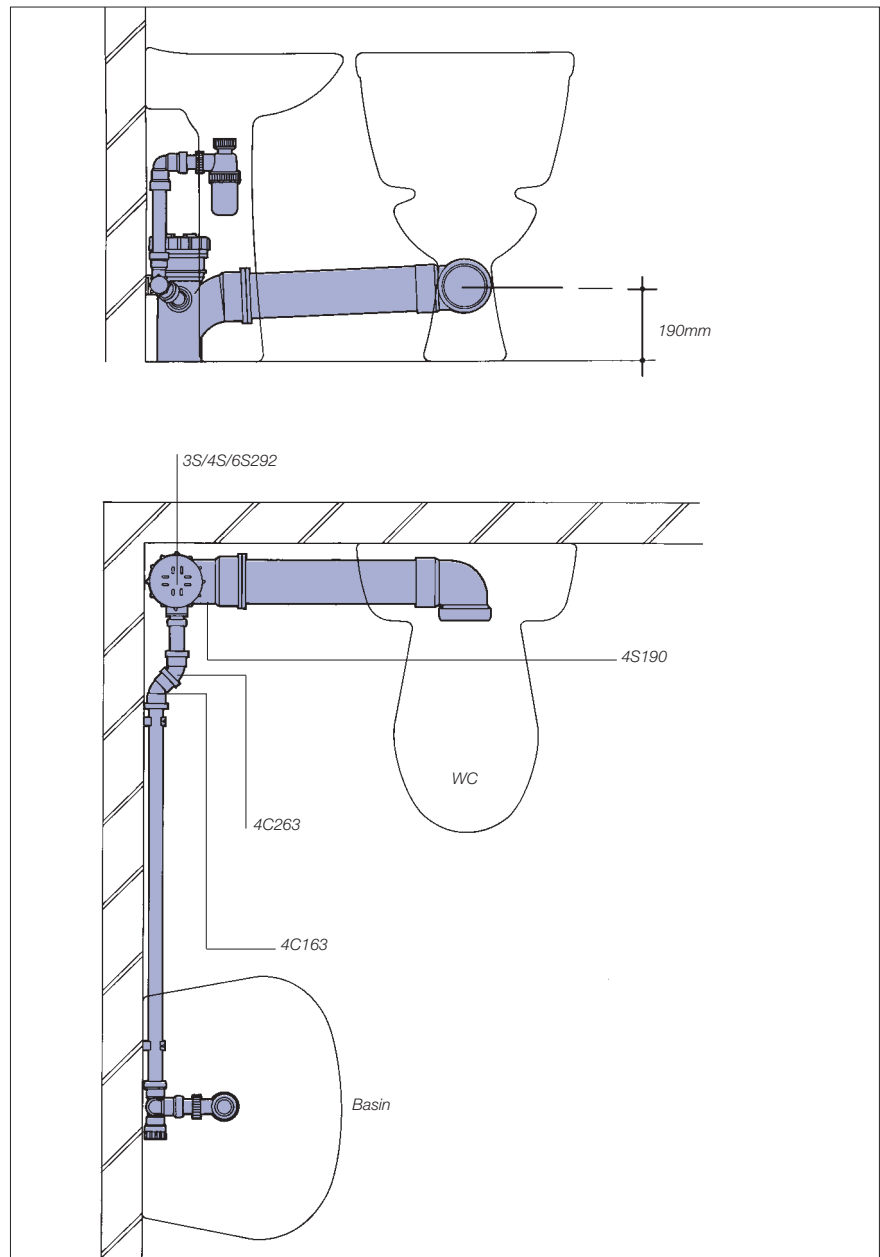
Designed as a 110mm discharge stack with access fitting cap on top.

Connects various appliances to the drain or discharge stack, providing the total loading does not exceed 5 litres/sec.

The distance from the invert level of the drain or discharge pipe to the topmost waste connection should not exceed 2.5m.

The distance from invert level to centre line of the WC should not exceed 1.5m (see Fig. 25)

Fig. 25 Typical stub stack arrangement



WC Manifolds

Connecting multiple WCs

OSMA Manifold Branches can be used to connect multiple WC outlets to a common soil discharge float leading to the soil and vent pipe (SVP). Up to 8 WCs (to BS 5503) can be connected, depending upon gradient.

The Manifold Branches are designed to be placed between the WC outlet and the wall behind it. As WC designs vary, this space should be checked to ensure there is sufficient room for manifold installation.

Eleven Manifold Branches include:

COMPONENTS

4S602 to 4S606: Five left-hand angled versions

4S612 to 4S616: Five right-hand angled versions

4S601: One straight Branch

The angled Branches are graduated from 8° to 38° in 7½° increments.

Each Branch, including the straight Branch, incorporates a WC Connector, with integral gasket, providing a minimum 2½° deflection all round.

The gradient will be between 0.5° and 5° (9 to 90mm per metre). The maximum available fall from the first WC (furthest from the SVP) to the last WC (nearest to the SVP) is 88mm (see Fig. 26).

Planning component needs

Use the following procedure, in conjunction with the Graduated Scales Diagram (see Fig. 28), to determine which Manifold Branches are required:

PROCEDURE

1. Draw 1:50 scale plan of proposed WC positions
2. Establish Left- or Right-hand orientation. Facing the WCs:
 - If the SVP will be at the Left end, use Section A of the Scales
 - If the SVP will be at the Right end, use Section B of the Scales

3. Select the Scale for the required gradient of the float run
4. Align arrowhead with first WC (furthest from SVP)
5. Provided all WCs fall within the Scale, proceed to Step 6. If not, select a shallower gradient and return to Step 4
6. Note each part number where the centre line of the WC outlet concerned falls within a section

NOTE: If the centre line of the WC outlet falls between two sections, either Manifold Branch is suitable. In some cases, with shallow gradients and close-set WCs, the same Manifold Branch will be appropriate (see example illustrated).

Fig. 26 Left hand float for 8 WCs

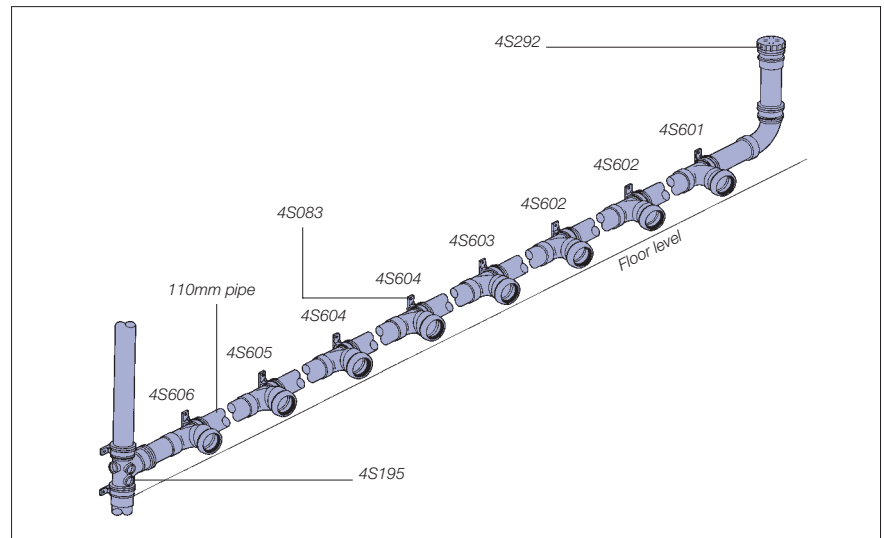
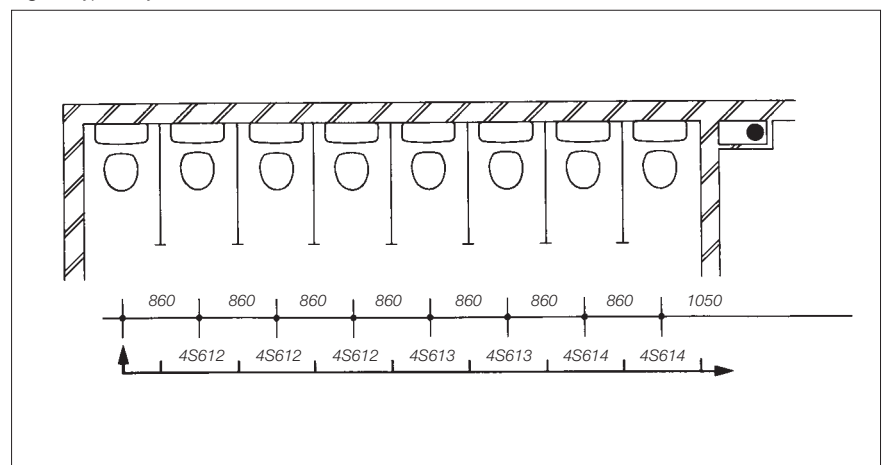
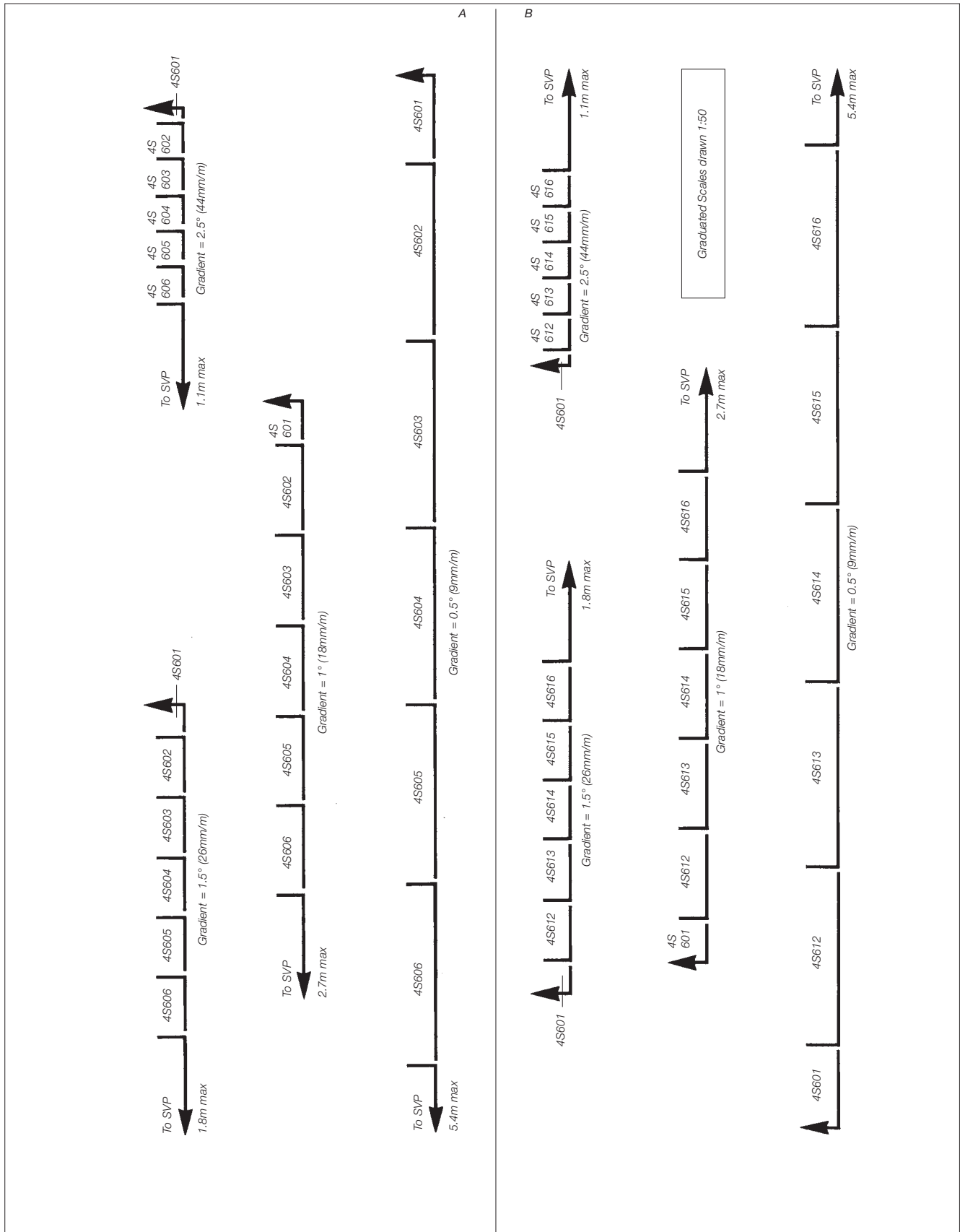


Fig. 27 Typical layout of double manifold float



WC Manifolds continued

Fig. 28 Graduated Scales



Ventilation

General principles

Discharge pipework must be vented to prevent self-siphonage or induced siphonage, and to protect traps.

Use of a separate ventilation stack to atmosphere is generally not required unless a sharp offset in the stack cannot be avoided (see also page 15).

Branch pipes

Separate ventilation of branch pipes is required only if the length and slope of the branch exceeds the dimensions set out in BS EN 12056:2000 or Part H of the Building Regulations (England & Wales), Part M (Scotland).

Air Admittance Valves

In many cases, and subject to certain design considerations, OSMA Air Admittance Valves (AAVs) may be installed as an alternative to traditional venting techniques. These reduce the number of ventilating pipes required to penetrate the roof in multi-installations, without affecting the performance of the drainage system.

AAV description and operation

OSMA AAVs include a diaphragm which, in the closed position, seals the unit and prevents foul air from escaping. Whenever internal pressure drops, the higher pressure external air opens the diaphragm to admit air and equalise the internal/external air pressure (see Fig. 29).

Soil stack ventilation

OSMA 110mm Air Admittance Valve 4S304 is designed for venting of:

- 110mm soil stacks up to 10 storeys
- 110mm stub stacks

The 110mm AAV may be used on runs serving a row of 10 dwellings, provided the head of the drainage run is vented traditionally to atmosphere.

See also **Drain Ventilation overleaf**.

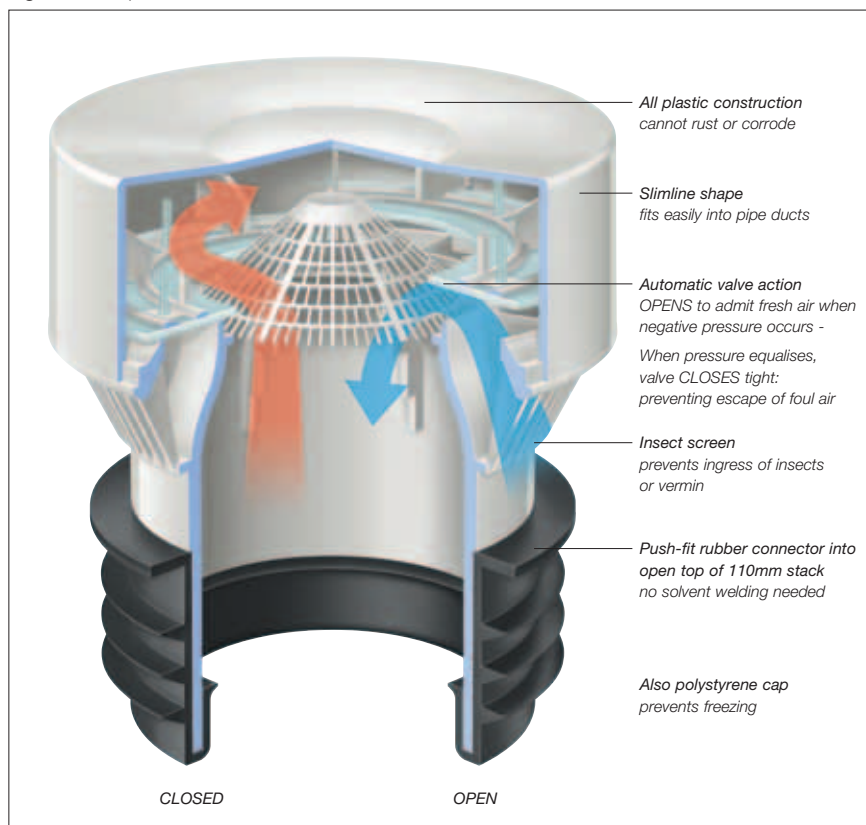
When used to vent a soil stack, **110mm Air Admittance Valve 4S304** should be located:

- Within a building, fitted vertically
- Preferably in a non-habited space (duct or roof-space)
- Where there is no risk of freezing
- Where it is accessible but not at risk of interference by vandals
- Fitted 200mm above the highest branch

For full installation details see page 38.

NOTE: This should not be the only vent to a drainage system discharging to a septic tank or intercepting trap.

Fig. 29 Valve operation



Ventilation continued

Stub stacks

When used to vent a stub stack, **110mm Air Admittance Valve 4S304** can be located 200mm above the highest branch (see Fig. 30).

Waste ventilation

40mm Air Admittance Valve 4S303 is designed for venting of 32, 40 or 50mm waste pipework where the pipe run exceeds the recommended maximum distance from the trap to the stack, i.e.:

- 3m for 40mm pipe
- 4m for 50mm pipe

The **40mm Air Admittance Valve 4S303** is suitable for use on single or combined waste systems. See page 38 for full installation details.

Drain ventilation

110mm Air Admittance Valve 4S304 may also be used for drain ventilation. Typical arrangements for access and provision of drain ventilation for different dwelling types are shown in Fig. 32.

Fig. 30 Vented stub stack

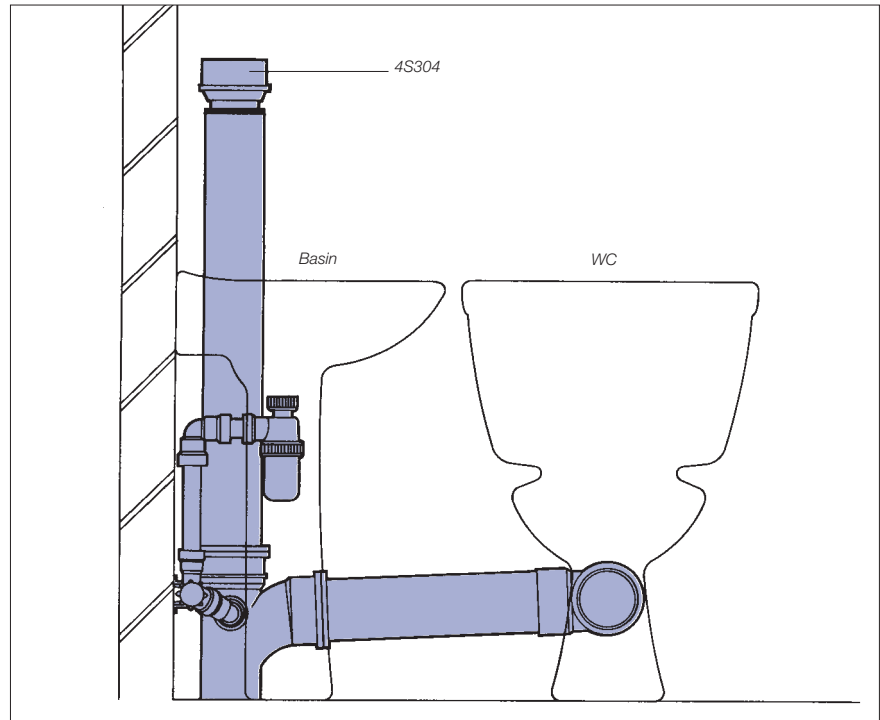
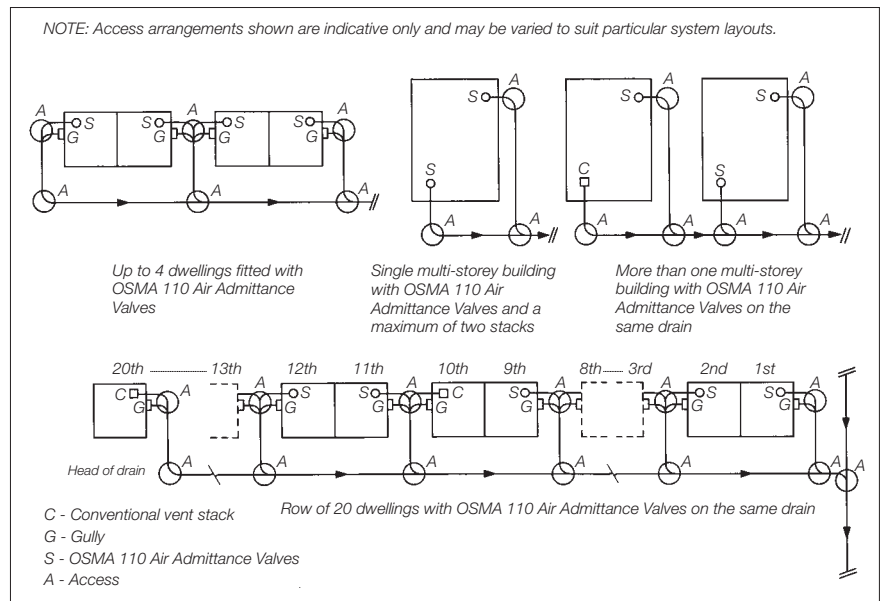


Fig. 31 Examples of provisions for drain ventilation



Ventilation continued

Ventilating roof screeds

Moisture in roof screeds may be caused by:

- Rainwater during drying/curing period
- Condensation from within the building, resulting in moisture vapour pressure build-up beneath the waterproofing

This could lead to:

- Distortion, blistering and deterioration of mastic asphalt and mineral felt-covered roofs
- Reduced thermal insulation
- Staining of ceilings immediately below roof level (see Fig. 32)

The OSMA **Breather Vent 4S700** installed at 6 metre centres will allow this potentially damaging moisture-laden vapour to escape. For full *Breather Vent installation details*, see page 43.

Extract systems

Certain buildings require regulated airflows for use with ventilation and extraction systems (e.g. blocks of flats, hotels, student accommodation).

The OSMA **Extract Valve 4S709** (see Fig. 33) is solvent welded direct onto 110mm pipe to provide airflow that can be:

- Adjusted to the required rate
- Locked against unauthorised interference

The Extract Valve has a polypropylene snap cover over a PVC-U body. It contains no metallic components and so is non-corrosive in steamy and damp atmospheres. For full *installation details*, see page 44.

Fig. 32 OSMA Breather Vent

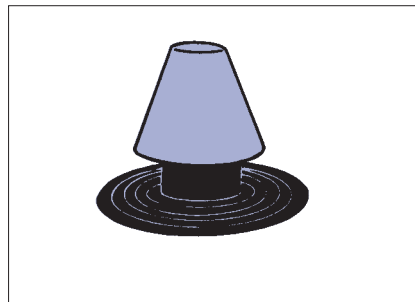
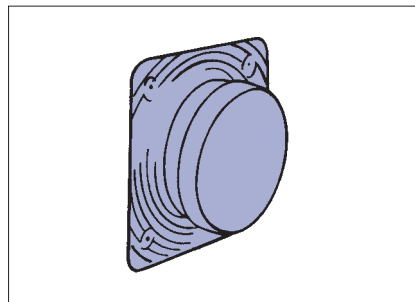


Fig. 33 Extract Valve

**Ventilation in radon gas areas**

Certain areas of the UK (including Cornwall, parts of Somerset, Northamptonshire and Derbyshire) are known to be susceptible to radon gas contamination.

Protective measures are explicitly required by Building Regulations Approved Document C2 when new building is proposed in areas where this possibility exists. Specific guidance is available:

- In **Report Number BR211 – Radon: guidance on protective measures for new dwellings** published by the Building Research Establishment, or
- By telephoning the **BRE Radon Hotline** on **01923 664707**

All OSMA Soil & Waste pipework is suitable for use in radon ventilation systems, but solvent weld joints are advisable.

Fire Stopping

Fire Stop Seals

OSMA **Fire Stop Seals** prevent the spread of fire, smoke and hot gases through plastic pipes that penetrate fire compartment floors and walls.

The Seals consist of two half shells of metal which are clipped around the pipe and anchored to the structure. The metal shell contains an intumescent material which reacts under intense heat.

Fire Stop Seals can be installed horizontally or vertically and provide an economic alternative to constructing fire resistant ducts.

Seals are available for four pipe sizes:

■ FITTINGS

- **2S001** for 50mm waste pipe
- **3S001** for 82mm soil pipe
- **4S001** for 110mm soil pipe
- **6S001** for 160mm soil pipe

Testing

OSMA **Fire Stop Seals** have been tested to BS 476: Part 20 at the Warrington Fire Research Centre. All sizes met insulation and integrity criteria for up to 4 hours.

Applications

OSMA **Fire Stop Seals** are suitable for maintaining the fire resistance of:

- Masonry walls and concrete floors which are penetrated by plastic pipework forming part of a drainage or ventilation system
- Timber floor constructions with ceiling lining which has at least one hour fire resistance rating

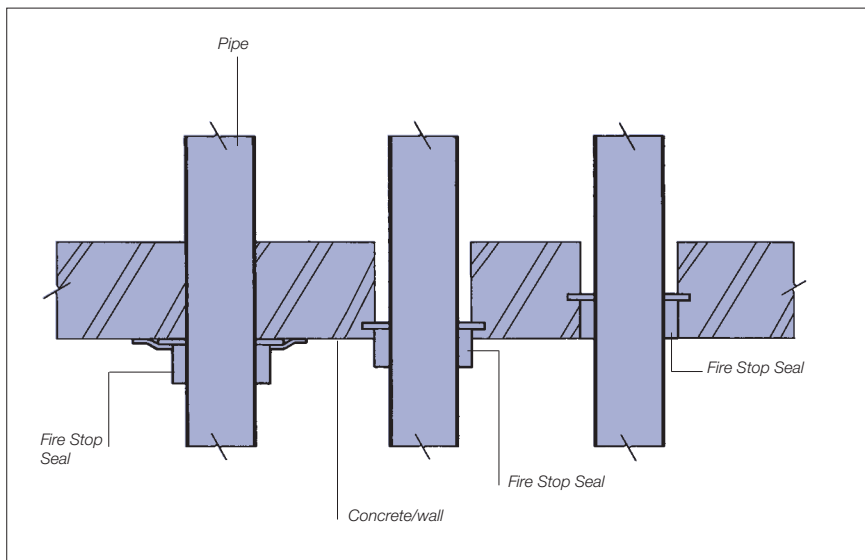
OSMA **Fire Stop Seals** can be fixed before or after the installation of the pipes and operate horizontally or vertically.

For horizontal pipework where there is a fire risk from BOTH sides of the wall, the unit should be installed within the thickness of the wall or, if this is not possible, one unit should be fitted to each side of the wall (see Fig. 34).

OSMA **Fire Stop Seals** are suitable for all types of new or refurbished buildings, especially residential flats, apartments, offices, hospitals, and schools.

They must be carefully fitted strictly in accordance with instructions. *For full installation details, see page 35.*

Fig. 34 Fixing positions for Fire Stop Seals in concrete floor/masonry wall



Materials: Properties and Performance

Heat resistance

Pipes and fittings manufactured from PVC-U or ABS:

OSMA Soil systems and ABS Solvent Weld Waste system: Osmaweld
Suitable for use with intermittent discharges of water up to 90°C

Pipes and fittings manufactured from MUPVC or Polypropylene:

MUPVC Solvent Weld Waste system, PP Push-Fit Waste systems (to BS EN 1451-1 and BS 5255) and V-Joint Traps

Suitable for use with intermittent discharges of water up to 100°C

PVC-U overflow pipes and fittings:

PVC-U Solvent Weld Overflow system: Osmaweld

Must not be used where hot water discharges are likely to occur.

Polypropylene overflow pipes and fittings:

PP Push-Fit Overflow system: ClearBore

May be used where intermittent hot water discharges are likely to occur. However, they must not be used with combination hot water cylinders and feed tanks.

Chemical resistance

OSMA Soil, Waste and Trap systems are unaffected by normal domestic effluent, detergents, cleaning fluids and a wide range of chemicals. Chemical effluent containing solvents should not be disposed of through PVC-U and ABS Waste systems.

For commercial and industrial applications, consult BSCP 312: Part 1: 1973 Code of Practice for plastic pipework. This provides comprehensive information on chemical resistance to plastic pipework.

Painting

OSMA Soil, Waste and Overflow pipes and fittings are self-coloured and corrosion resistant. They may, however, be painted with normal household paints if an alternative colour is required. Oil-based gloss paint is the most suitable for this purpose. For best results, slightly abrade the surface with sandpaper and clean thoroughly before painting.

Timber preservatives

If soil or waste pipes and fittings are to be installed externally and fixed to timber fascias or boards treated with timber preservatives, the preservatives must first be allowed to dry out prior to fitting. *Refer to manufacturers' recommendations.*

Biological attack

Normal pollutants in the atmosphere will not affect Soil, Waste or Overflow systems. They are also unaffected by fungi, moss, lichen, moulds or bacteria.

Physical attack

If pipework is installed internally or externally in areas likely to suffer attacks by vandals, the suitability of the material should be questioned. In such a situation, Solvent Weld systems are less likely to be dismantled than Ring-Seal or Push-Fit systems.

However, unlike cast iron or copper systems, plastic has no scrap value and is therefore less likely to be targeted.

Ultra violet light

PVC-U and MUPVC pipework has superior resistance to the effects of UV light and, although it may fade slightly after many years of exposure to strong sunlight, its integrity is unaffected.

It is recommended that externally installed ABS and PP pipework be painted with an oil-based gloss as a protective coating against long exposure to sunlight.

Radon gas resistance

Soil pipes and fittings are unaffected by radon gas when used as part of a ventilation system designed specifically for radon gas extraction.

For connections made within a building, the use of solvent weld joints is advisable. *For further information on radon gas, contact the BRE Radon Hotline on 01923 664707.*

Handling and Storage

Handling

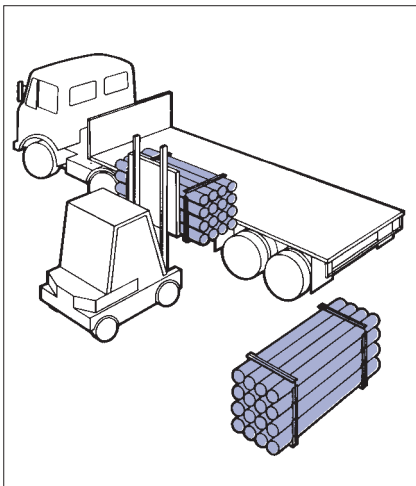
Care should be taken when handling pipe and fittings. Excessive scratching or scoring harms the appearance and can also affect the joint sealing.

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 Fig. 35).

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.

Fig. 35 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 Fig. 37)

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 Fig. 36).

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.

Fig. 36 Storage of loose pipe on the ground

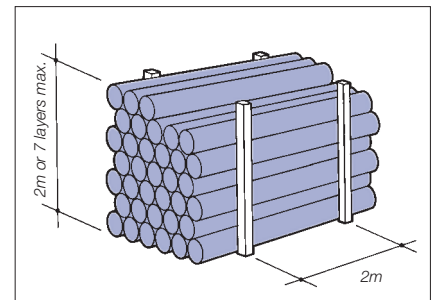
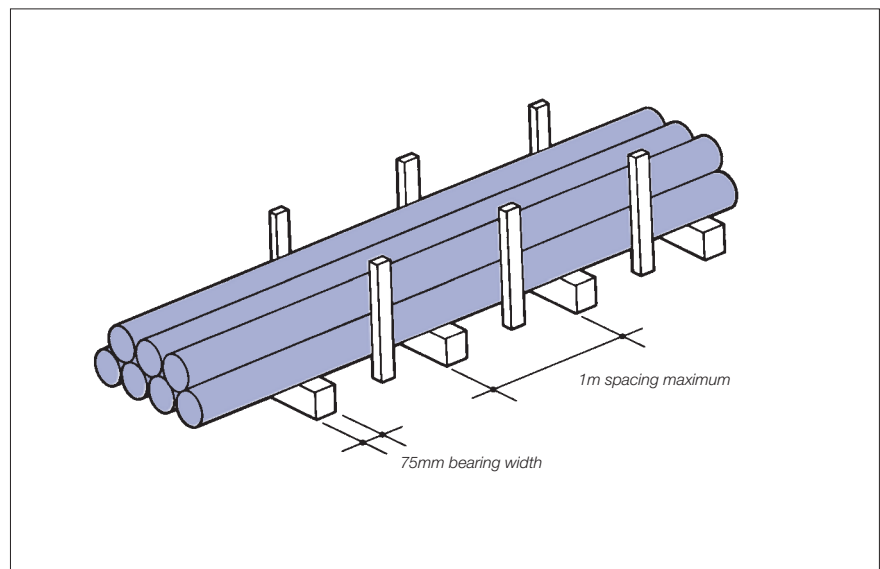


Fig. 37 Storage of loose pipe on bearers



Pipe Cutting and Jointing

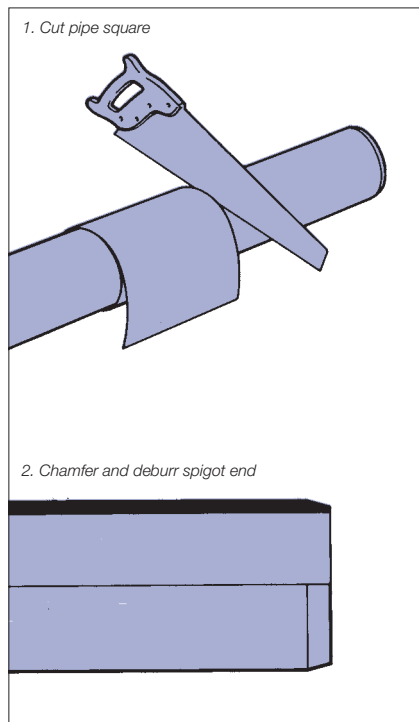
Pipe cutting

Pipe may be cut on site using a fine-toothed hand saw.

PROCEDURE

1. Cut pipe cleanly at right angles to its axis (see Fig. 38)
2. De-burr the cut end with a scraper if the cut end is to be inserted into a ring-seal or push-fit joint
3. Chamfer the spigot end: this is essential to ensure that the sealing ring is not displaced during insertion

Fig. 38 Pipe preparation



Ring-seal/push-fit jointing

PROCEDURE

1. Ensure any pipe cut on site is also chamfered
2. Check that the sealing ring is properly seated in its housing in the socket of the fitting
3. Ensure all components to be joined are dry, clean and free from grit or dust. Note any deep scratches on the pipe or fitting spigot as these may prevent the sealing ring from forming a water tight seal
4. Lubricate evenly around the pipe or fitting spigot end with **Silicone Lubricant 4S391**. Do NOT lubricate inside the socket. Do NOT use washing up liquid as a lubricant. If using 400ml can **4S392**, spray the lubricant onto the spigot and not the ring seal. The spigot can then be inserted into the socket
5. Correctly align the components to be joined

6. Push the pipe or fitting spigot fully into the socket. Mark the pipe or fitting spigot at the socket face and then withdraw it by a minimum of 12mm to allow for thermal expansion (see Fig. 39)
7. Make a subsequent check to ensure that the expansion gap is not lost during further installation work

Fig. 39 Ring-seal joint

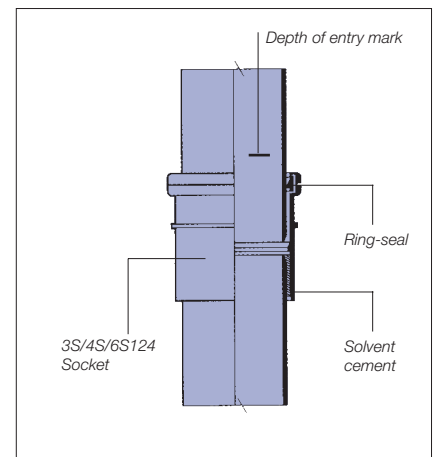


Table 20: Lubricant Usage Guide (approx.) For ring-seal/push-fit joints

Description	Part No.	Nominal Pipe Sizes (mm)					No. of Joints
		32	40	50	82	110	
Silicone Lubricant 50g tube	4S391	44	37	20	16	9	4

Pipe Cutting and Jointing continued

Solvent weld jointing

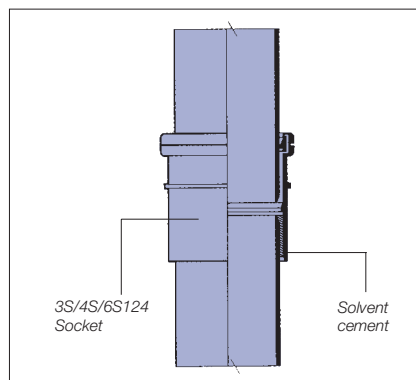
PROCEDURE

- Before using any solvent based cleaners or cement:
 - Read instructions on the can
 - Ensure there is sufficient ventilation
- Make sure pipe or fitting spigot and solvent weld socket are dry, clean and free from grit or dust
- Clean surfaces of spigot and socket with **Degreasing Cleaner N°.1 4S379/380**. Apply liberally using a clean non-synthetic rag or absorbent paper
- Apply one coat **Solvent Cement N°.2 4S383/384/385**. Apply an even coat to both surfaces using the applicator provided or a paint brush. Stroke the cement ALONG and not around the surfaces
- Immediately insert pipe or fitting spigot fully into the socket (see Fig. 40). Each solvent weld joint MUST be completed within 1½ minutes

- Hold for 20-30 seconds. Remove any surplus cement from the mouth of the socket
- The joint may be handled after 10 minutes and commissioned after 24 hours

NOTE: Complete soil stacks can be pre-fabricated using the OSMA Solvent Weld system. This may be useful where identical designs are required for multiple projects.

Fig. 40 Solvent cement joint



Safety

When making solvent weld joints it is essential to observe normal safety rules for handling solvent:

- Never smoke or bring naked flames near the area of work
 - Work in a well ventilated area to avoid inhaling fumes
 - Close the solvent container after use and store in a cool area
 - Do not allow solvents or cleaners to come into contact with skin
- Refer to COSHH Regulations (Control of Substances Hazardous to Health) where applicable.

Table 21: Cleaner/Solvent Cement Usage Guide (approx.) For solvent weld joints

Description	Part No.	Nominal Pipe Sizes (mm)						No. of Joints	
		19	32	40	50	82	110	160	
Degreasing Cleaner No.1 125ml can	4S379	120	70	45	33	25	16	10	
Degreasing Cleaner No.1 250ml can	4S380	240	140	90	66	50	32	20	
Solvent Cement No.2 125ml can	4S383	90	45	30	20	8	5	3	
Solvent Cement No.2 250ml can	4S384	180	90	60	40	16	11	6	
Solvent Cement No.2 500ml tin	4S385	360	180	120	80	32	22	12	

Pipe Support and Offsets

Pipe support centres

Pipes should be supported at the following maximum centres:

Table 22: Maximum Pipe Support Centres

Pipe Size (mm)	Centres (m)	
	Vertical	Horizontal
19	0.5	0.5
32	1.2	0.5
40	1.2	0.5
50	1.2	0.6
82	2	1
110	2	1
160	2	1.2

Suspended Brackets

The OSMA Suspended Bracketing system provides horizontal support for socket and intermediate pipework for 110mm and 160mm Soil installations. All fittings should be bracketed and braced using 4S085/6S085.

Socket Support 4S085/6S085

COMPONENTS

- Threaded Rod
- Threaded Bracket
- Bracket Plate
- Adjustable Braces (2)
- Pipe/Socket Bracket

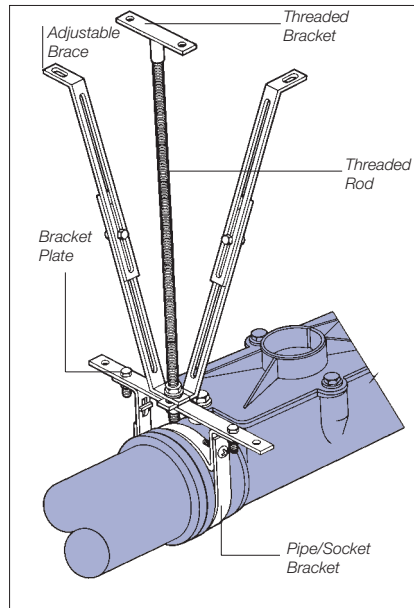
PROCEDURE

1. Fix the Threaded Bracket to the ceiling using bolts appropriate for the ceiling material
2. Screw the Threaded Rod into the Threaded Bracket
3. Fix the Braces and Bracket Plate onto the Threaded Rod using the two nuts and washers provided
4. Adjust the height of the Bracket Plate to the required fall, and cut the rod below the lower nut
5. Adjust the length of the Braces using the nuts on the Braces themselves
6. Fit the Pipe/Socket Bracket over the socket to be supported, directly behind the socket shoulder
7. Fix the Pipe/Socket Bracket to Bracket Plate using the two bolts provided

8. Fix the Braces to the ceiling: one at the side of, and one behind, the socket using bolts appropriate for the ceiling material

NOTE: Not suitable for use in damp, inaccessible voids

Fig. 41 Suspended Bracketing (socket support)



Intermediate Pipe Support

4S086/6S086

COMPONENTS

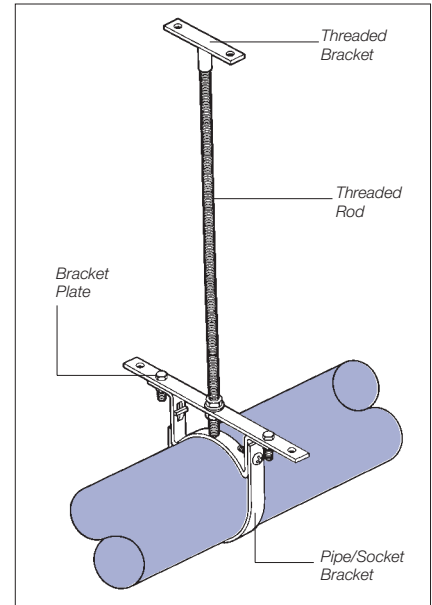
- Threaded Rod
- Threaded Bracket
- Bracket Plate
- Pipe/Socket Bracket

PROCEDURE

1. Fix the Threaded Bracket to the ceiling using bolts appropriate for the ceiling material
2. Screw the Threaded Rod into the Threaded Bracket
3. Fix the Braces and Bracket Plate onto the Threaded Rod using the two nuts and washers provided
4. Adjust the height of the Bracket Plate to the required fall, and cut the rod below the lower nut
5. Fit the Pipe/Socket Bracket over the pipe to be supported
6. Fix the Pipe/Socket Bracket to Bracket Plate using the two bolts provided

NOTE: Not suitable for use in damp, inaccessible voids

Fig. 42 Suspended Bracketing (intermediate pipe support)



Offsets

The minimum offsets that can be achieved in each size (with part numbers) are as set out below:

Table 23: Minimum Achievable Offsets

Pipe Size (mm)	Part No.	Minimum Offset
82	3S444	115
110	4S444	155
160	6S435	233

Alternatively, for 110mm installations, use an adjustable bend (push-fit):

- 4S173 for 0° to 30° angles
- 4S179 for 0° to 90° angles

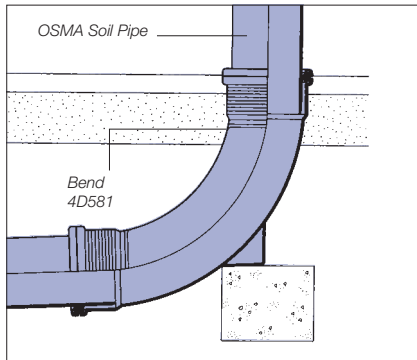
Connections to Below Ground Drainage

Connections to PVC-U

110mm OSMA Soil Pipe connections to PVC-U are straightforward using ring-seal/push-fit jointing and OSMA Below Ground Drainage fittings (page 30).

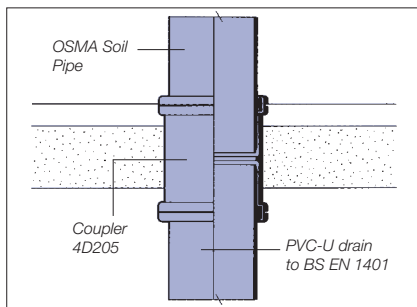
– Via **OsmaDrain Bend 4D581**

Fig. 43 PVC-U drain socket



– Via **OsmaDrain Coupler 4D205**

Fig. 44 PVC-U drain spigot



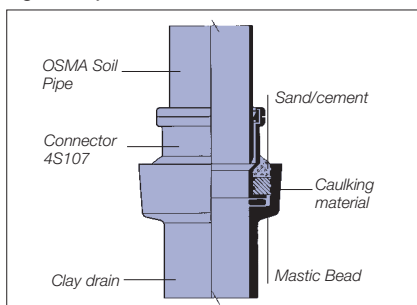
Connections to Other Materials

To clay drain socket via OsmaSoil Connector 4S107

PROCEDURE

1. Apply a bead of non-setting mastic to the face of the Connector and position centrally in the clay drain socket
2. Caulk the joint with yarn
3. Finish with 2:1 sand cement mortar

Fig. 45 Clay drain socket

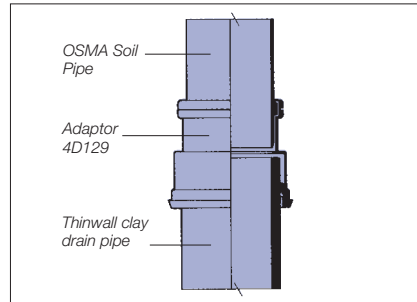


To thin-wall clay drain pipe spigot via OsmaDrain Adaptor 4D129

PROCEDURE

- Use ring-seal/push-fit jointing method (page 30)

Fig. 46 Thin-wall drain spigot

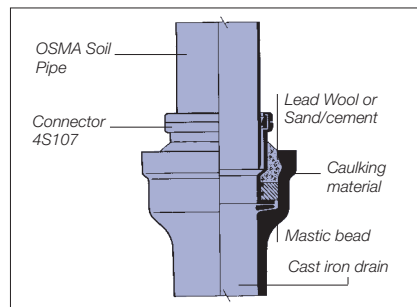


To cast iron drain socket via OsmaSoil Connector 4S107

PROCEDURE

1. Apply a bead of non-setting mastic to the face of the Connector and position centrally in the cast iron drain socket
2. Caulk the joint with gaskin followed by lead wool, (NOT hot lead)
3. Finish with 2:1 sand cement mortar

Fig. 47 Cast iron drain socket

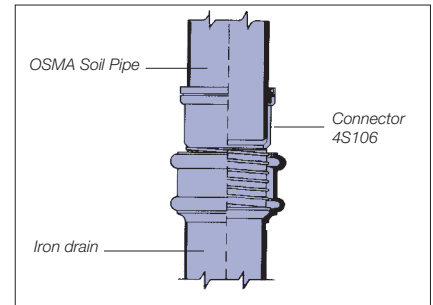


To cast iron soil socket via OsmaSoil Connector 4S106

PROCEDURE

1. Apply a bead of non-setting mastic to the face of the Connector and position centrally in the cast iron drain socket
2. Caulk the joint with gaskin, followed by lead wool (NOT hot lead).

Fig. 48 Cast iron soil socket

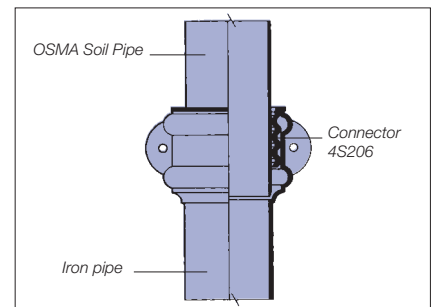


To cast iron soil socket via OsmaSoil Connector 4S206

PROCEDURE

1. Place Connector inside cast iron socket
2. Lubricate plain end of pipe
3. Push in soil pipe spigot

Fig. 49 Cast iron soil socket

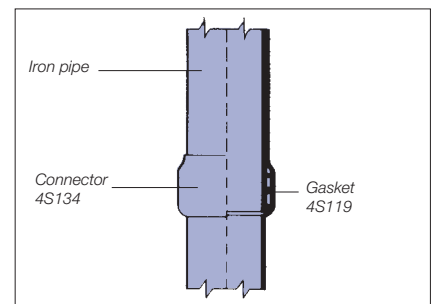


To cast iron soil pipe spigot via OsmaSoil Connector 4S134 and Gasket 4S119

PROCEDURE

1. Place rubber gasket or seals over spigot of iron pipe to be positioned centrally within the Adaptor socket
2. Heat uniformly with blow torch or hot air gun, taking care not to scorch the Adaptor, until the socket shrinks over the seal and spigot

Fig. 50 Cast iron soil spigot



Access Saddle

Where access to soil pipework is required without using a fitting with an integral access facility, the **Access Saddle 4S275** may be used on 110mm pipe to BS 4514.

COMPONENTS

This comprises:

- Saddle
- Access Liner
- Access Cap
- Access Cap Gasket
- Clamp Ring
- Hole Template

PROCEDURE

1. Mark the position on the pipe where access is required
 2. Cut a hole in the pipe
EITHER
With a pad saw using the template provided
OR
With a hole cutter 89mm in diameter and over 40mm depth
 3. Deburr and clean the area around the hole, and the mating surfaces, with **Degreasing Cleaner No.1 4S379/4S380**
 4. Apply **Solvent Cement Filler 4S394** to the mating surfaces
 5. Fix Saddle to the pipe over the hole
- NOTE:** Application of solvent and fixing to pipe must be completed within 1½ minutes
6. Clamp with the ring provided as steps illustrated (see Fig. 52)
 7. The clamp may be removed after 10 minutes

Fig. 51 Access Saddle

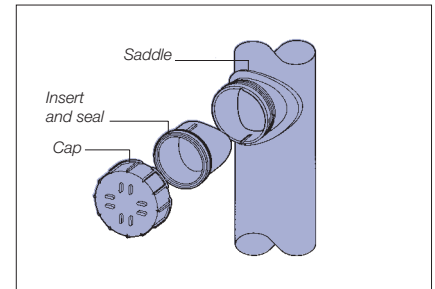
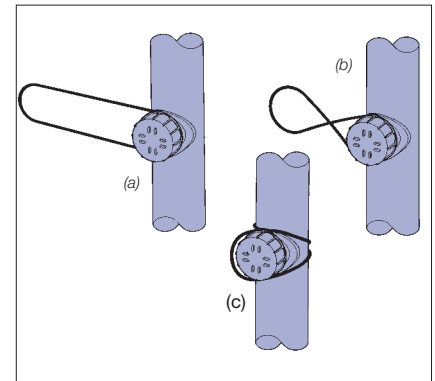


Fig. 52 Installation of Access Saddle



WC Manifold Branches

OSMA WC Manifold Branches are designed to provide direct connections to BS 5503 washdown or siphonic WC pans in space between WC outlets and the wall.

Eleven Manifold Branches are available:

- Five left-hand angled versions **4S602 to 4S606**
- Five right-hand angled versions **4S612 to 4S616**
- One straight Branch **4S601**

The Angled Branches are graduated from 8° to 38° in 7½° increments.

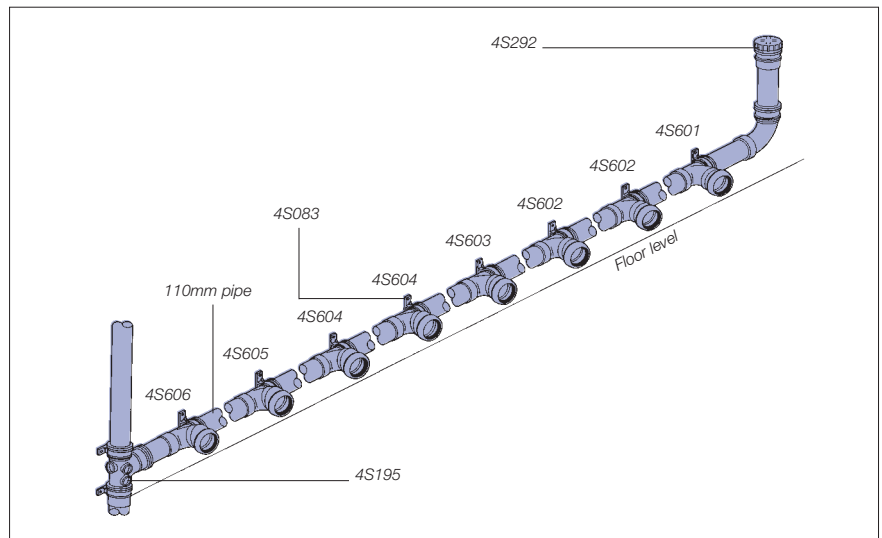
Each Branch, including the straight Branch, incorporates a WC Connector, with integral gasket, providing a minimum 2½° deflection all round.

Used together, they can connect up to 8 WCs depending on the gradient. BS EN 12056-2: 2000 permits a float gradient of 0.5° to 5° (9 to 90mm per metre).

Maximum fall from the first WC (furthest from the soil and vent pipe) to the last WC (nearest the soil and vent pipe) is 88mm.

See page 22-23 for guidance on planning component needs.

Fig. 53 Left hand float for 8 WCs



Fire Stop Seals

OSMA Fire Stop Seals provide protection for plastic pipe penetrating fire compartment floors and walls. Seals are available for four pipe sizes:

PROCEDURE

Fixing with four brackets:

- 50mm Waste Pipe **2S001**
- 82mm Soil Pipe **3S001**
- 110mm Soil Pipe **4S001**

Fixing through six holes in flange:

- 160mm Soil Pipe **6S001**

IMPORTANT NOTE: Do NOT use plastic fixings. These are unsuitable

Handling

OSMA Fire Stop Seals should be:

- Stored in dry conditions and protected from flames or other sources of ignition prior to and during installation
- Protected from physical damage during and after installation

Safety

OSMA Fire Stop Seals do not contain toxic chemicals and present no known hazards in use.

Preparation

The floor soffit or wall surface must be smooth. Make good any irregularities using a proprietary intumescent mastic.

Installation

PROCEDURE

1. Place the two halves of the Seal unit around the pipe and securely fasten the side clips (**2S/3S/4S001**)
2. Position the brackets. Where possible, these should be equally spaced around the circumference of the Seal unit
3. Secure the brackets to the floor or wall so that they fully cover the flange of the unit. When finally tightened, they should provide a firm hold on the flange

NOTE: For installation to the underside of timber floors, the screws should be securely fixed to noggings and counter noggings

Fig. 54 Plan view of fixing positions of brackets

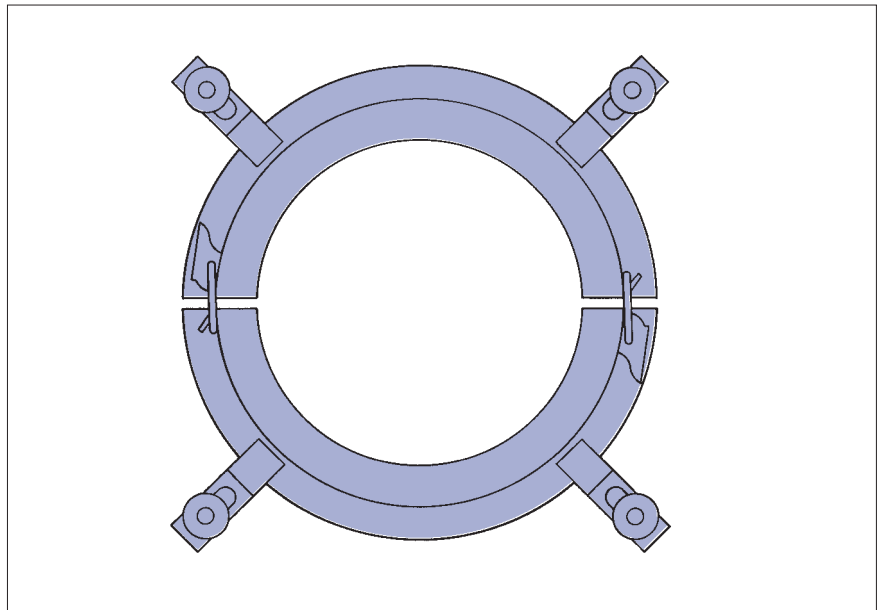
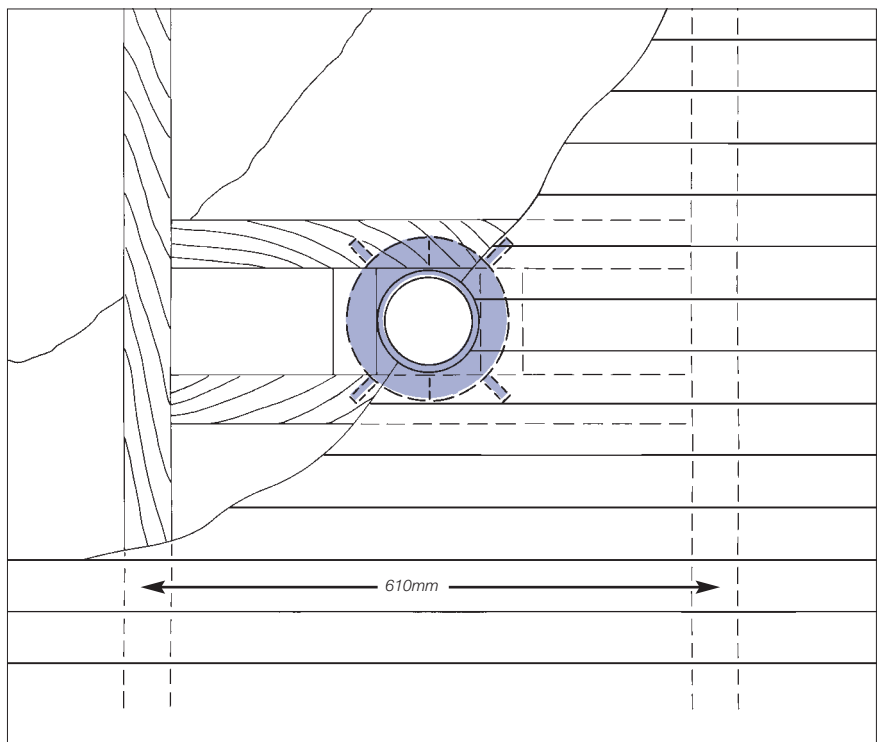


Fig. 55 Plan view of OSMA Fire Stop Seal under a timber floor



Soil Connections to Waste

Installing Boss Socket Adaptors

To use unperforated boss socket positions on Bossed Pipes and Bossed Branches:

PROCEDURE

1. Drill required unperforated boss socket position with 50mm hole cutter
2. Deburr and clean area around hole with **Degreasing Cleaner No. 1 4S379/4S380**
3. Apply **Solvent Cement No.2 4S383/4S384/4S385** to both mating surfaces
4. Fit the appropriate **Boss Socket Adaptor** ensuring the top locating key fits into the corresponding key-way on the fitting

Installing Short Boss Pipe - 4S588

32, 40 and 50mm pipe may be connected via appropriate **Boss Socket Adaptor** as normal procedure described above (see **Boss socket Adaptors** above).

Alternatively, 40mm pipe may be directly connected via a solvent weld socket:

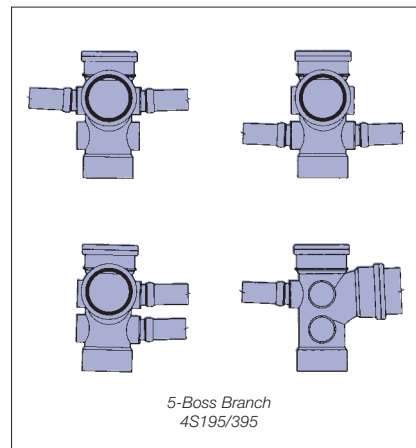
1. Open spigot connection using 35mm hole cutter
2. Deburr and clean area around hole with **Degreasing Cleaner No. 1 4S379/4S380**
3. Solvent weld appropriate socket onto spigot tail of the bossed connection. *For solvent weld jointing procedure, see page 31.*

Permitted connections

Bossed Branches have maximum five waste socket positions. These may be utilised as follows:

- Two waste pipes to one side
- One waste pipe each side on the same level
- Single connections at side and rear

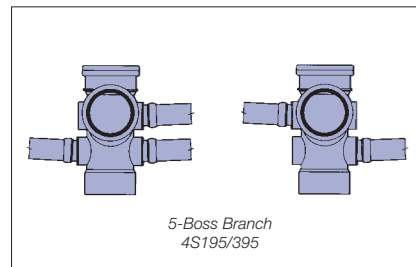
Fig. 56 Permitted connections



Connections NOT permitted

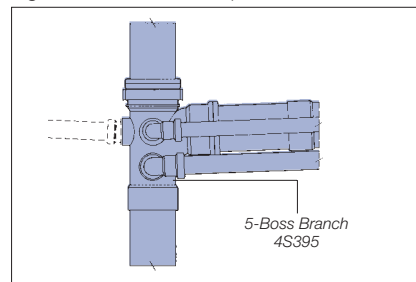
Offset socket connections are not permitted

Fig. 57 Connections NOT permitted



Connection of multiple wastes

Fig. 58 Connection of multiple wastes



Installing Strap Bosses

COMPONENTS

Strap Bosses 4S318, 3S319 and 4S319

provide an inexpensive method of connecting waste from basins, baths, bidets and showers fittings to 110mm soil stack pipework

PROCEDURE

1. Mark the position on the stack where the boss is required
2. Drill a 56mm diameter hole
3. Deburr and clean the area around the hole with **Degreasing Cleaner No. 1 4S379/4S380** and clean the mating surface of the Boss
4. Apply **Solvent Cement Filler 4S394** to the mating surface of the Boss
5. Fit the Boss to the hole ensuring 'top' is uppermost, and bolt together
6. Allow 24 hours before completing Boss Socket Adaptor connection

Fig. 59 Connection of Strap Bosses

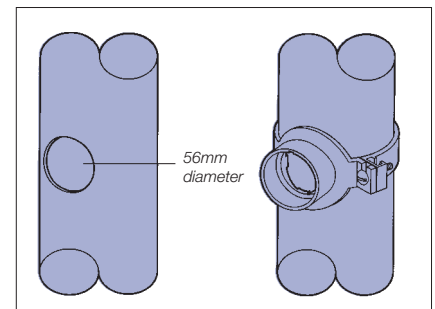
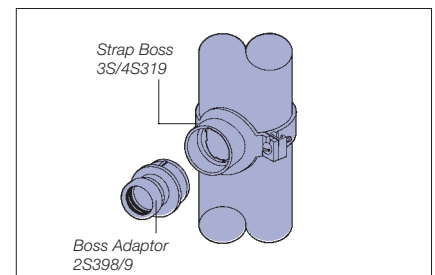


Fig. 60 Fitting Boss Socket Adaptor



Soil Connections to Waste continued

Installing Soil Manifold

The OsmaLink Soil Manifold provides a simple method of making up to three waste pipe connections to the stack at floor level. No drilling, sawing or welding is necessary for installation.

The sockets allow direct connection for 50mm pipe, and connection of 32mm and 40mm pipe via reducers to BS EN 1451-1, BS 5254, BS 5255 and copper wastes to BS 659 and BS 2871.

Horizontal connections

Make horizontal connections using the following bends/adaptors:

For 50mm pipe – use the **All-Fit 90°**

Spigot Bend 2S356

For 40mm pipe – use the **All-Fit**

Reduction Bend 2S355

For 32mm pipe – use **All-Fit Reducer**

2S354 with **All-Fit Reduction Bend 2S355**

Vertical connections

Make vertical pipe drops into the OsmaLink Soil Manifold as follows:

For 50mm pipe – no reducer/adaptor required

For 40mm pipe – use synthetic rubber **Reducer 2Z349**

For 32mm pipe – use synthetic rubber **Reducer 2Z347**

Locate Reducer in socket as follows:

PROCEDURE

1. Lubricate the Reducer
2. Push into the required socket

The OsmaLink Soil Manifold is supplied with one open socket. To use the other sockets, simply remove the socket plugs. The connections are push-fit. There is no need for solvent welding.

Fig. 61 Typical OsmaLink Soil Manifold installation (side view)

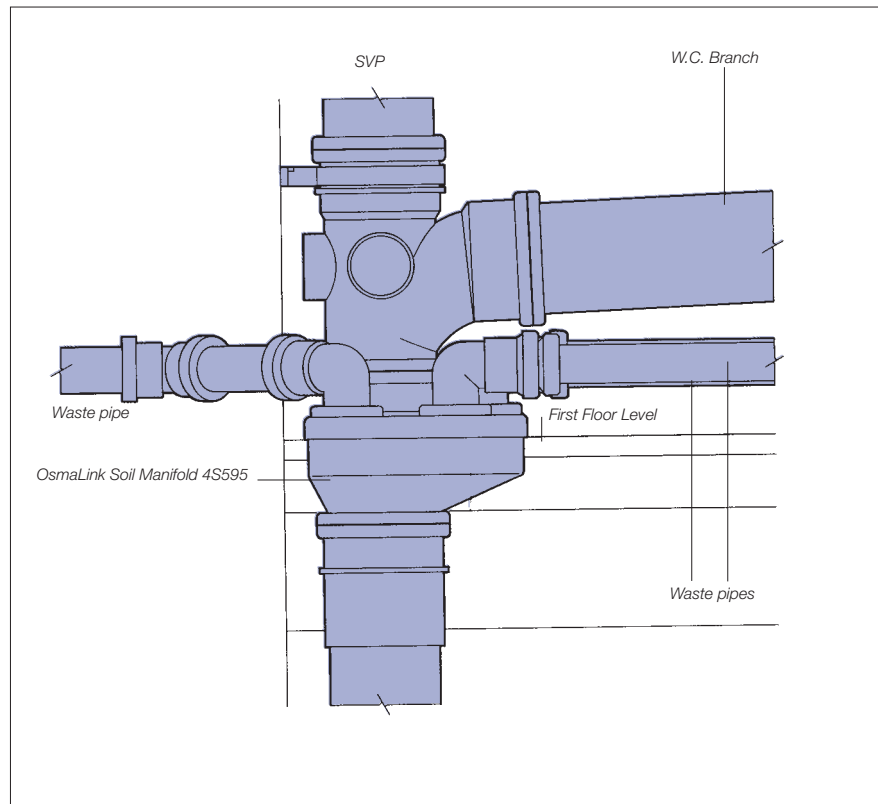
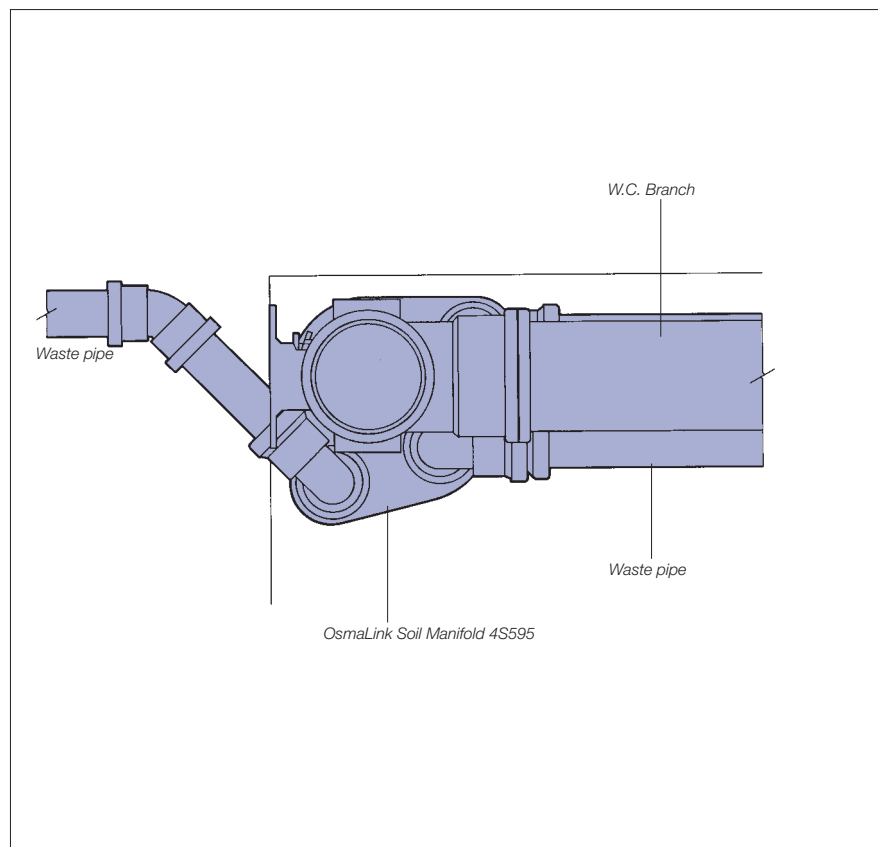


Fig. 62 Typical OsmaLink Soil Manifold installation (plan view)



Air Admittance Valves

OsmaVent 110

The OsmaVent 110mm Air Admittance Valve 4S304 (AAV 110) is designed for venting 110mm soil pipe stacks. It prevents siphonage and protects traps by allowing air into the discharge pipework without allowing foul air to escape.

Venting of Soil Stack

Suitable for soil stacks up to 10 storeys high. OsmaVent 110 should be installed vertically and located:

- In a non habital space, easily accessible (e.g. duct or loft)
- Fitted 200mm above the highest branch

For connecting to 110mm pipe

■ PROCEDURE

1. Cut the 110mm PVC-U pipe square to its axis
2. Clean and remove swarf
3. Push-fit the valve into the pipe end (no lubrication necessary)
4. Place top half of packaging over the AAV to protect it from freezing when used in the loft

For connecting to 82mm pipe

■ PROCEDURE

1. Remove rubber connector from AAV
2. Solvent weld AAV onto short length of 82mm pipe
3. 82mm pipe should be connected to the soil stack via a ring-seal fitting to allow the AAV to be easily removed for access to drainage system

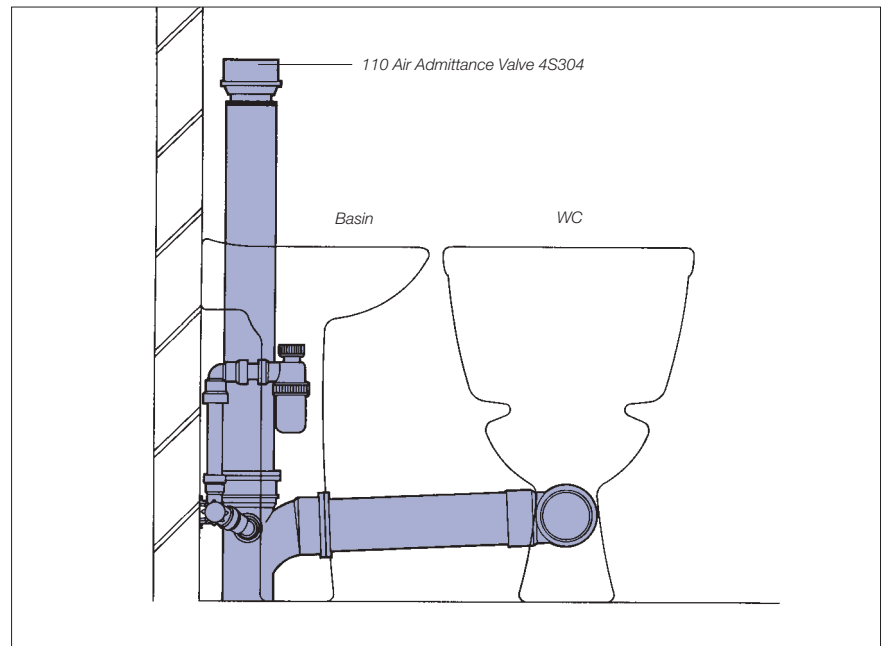
Venting of stub stack

If a stub stack access assembly, to which ground floor cloakroom appliances are commonly connected, is discharging into a non-vented nearby drain, it will require venting eg. via AAV.

The OSMA 110mm Air Admittance Valve 4S304 may be used to vent a stub stack in the following circumstances:

- If the crown of the WC trap is more than 1.5m above the drain invert
- The topmost connection to the stack is more than 2m from the drain

Fig. 63 Vented stub stack



OsmaVent 40

Designed for venting waste systems when the length of waste pipe from trap to stack exceeds the following dimensions:

- 40mm pipe: 3m
- 50mm pipe: 4m

The OsmaVent 40mm Air Admittance Valve 4S303 (AAV 40) prevents siphonage and protects traps by allowing air into discharge pipework without allowing foul air to escape. It is suitable for venting up to 5 wash basins.

OsmaVent 40 push-fits onto 32 and 40mm (1¼, 1½") waste pipework to BS EN 1451-1, BS 5254 and BS 5255. It should be installed vertically and located in an accessible space.

For connecting to 32mm pipe

■ PROCEDURE

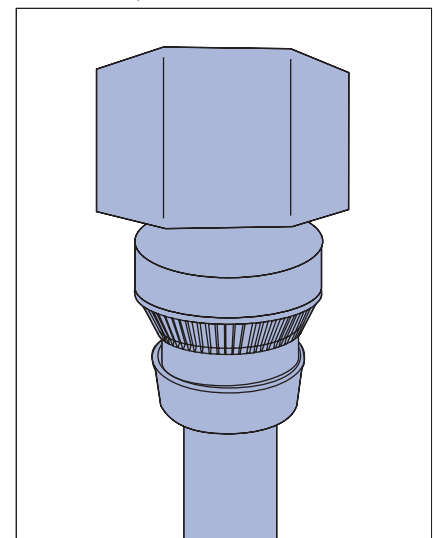
1. Install the valve directly onto the deburred pipe
2. In areas of extreme temperatures cover the installed valve with the insulation

For connecting to 40mm pipe

■ PROCEDURE

1. Remove the connector from base of valve
2. Pull away the inner part of connector
3. Ensure the pipe is cut square and remove burrs. Push the connector approx. 50mm down the pipe
4. Place valve on top of pipe
5. Holding the valve onto the pipe push up the connector until secure over the valve
6. In areas of extreme temperatures cover the installed valve with the insulation

Fig. 64 Installation of OsmaVent 40mm – In areas of extreme temperatures



Weatherproofing Soil Stack

Installing Weathering Collar

For maintaining watertight seal between pipe and traditional flashing:

■ FITTINGS

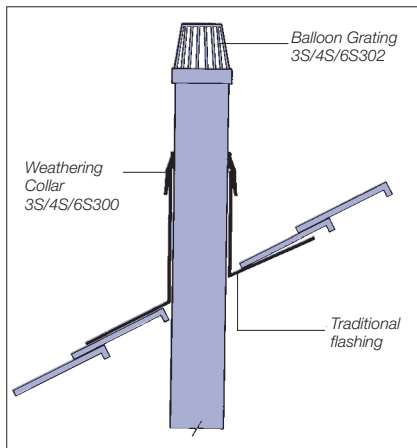
Weathering Collar

- 82mm **3S300**
- 110mm **4S300**
- 160mm **6S300**

■ PROCEDURE

1. Apply solvent weld to pipe immediately above flashing upstand using **Solvent Cement Filler 4S394**
2. Slide down into position with cone section over the flashing upstand to form a 'watershed'

Fig. 65 Installation of Weathering Collar



Installing Pipe Flashings

VariPitch Pipe Flashings are suitable for use on pitched or flat roofs, and with felt or asphalt finishes for 82mm or 110mm PVC-U pipe.

■ FITTINGS

- For flat roofs: **VariPitch Pipe Flashing 4S281** (400 x 400mm)
- For pitched roofs between 12° and 55°: **VariPitch Pipe Flashing 4S283** (450 x 450mm), **VariPitch Pipe Flashing 4S285** (600 x 600mm)

Fig. 66 Installation of VariPitch flashings – pitched

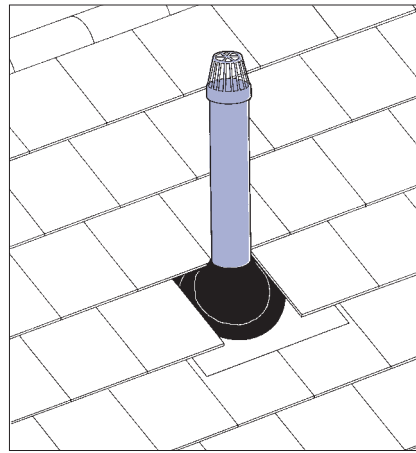
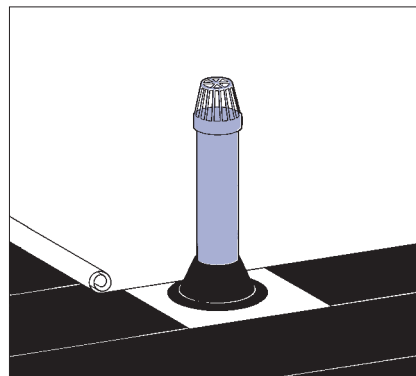


Fig. 67 Installation of VariPitch flashings - flat



Pitched Roofs

■ PROCEDURE

1. Secure vent pipe in position through roof
2. If necessary, lubricate pipe with silicone lubricant to enable flashing to slide into position
3. Fit flashing over stack pipe, and dress to suit roof tile profile
4. To aid rigidity in exposed locations, a welt may be formed on front and side edges of apron
5. Ensure back of apron is supported to prevent sagging between the rafters

Flat Roofs: Felt

■ PROCEDURE

1. Secure vent pipe in position through roof
2. If necessary, lubricate pipe with silicone lubricant to enable flashing to slide into position
3. Fit first layer of felt around the pipe
4. Fit flashing over stack pipe
5. Bed flashing in bitumen
6. Butt second layer of felt to the edge of the apron
7. Fix third layer of felt in bitumen over the apron and around the cone of the flashing

Flat Roofs: Asphalt

■ PROCEDURE

1. Secure vent pipe in position through roof
2. If necessary, lubricate pipe with silicone lubricant to enable flashing to slide into position
3. Fit flashing over stack pipe
4. Apply asphalt over apron. Do not allow asphalt to come into contact with the unsupported cone of the flashing
5. For improved adhesion, turn back apron edge approximately 12mm before applying asphalt

Traps

OSMA Waste pipes will fit directly into the integral compression joint on OSMA V-Joint Traps and Compression Joint Traps.

V-Joint Traps

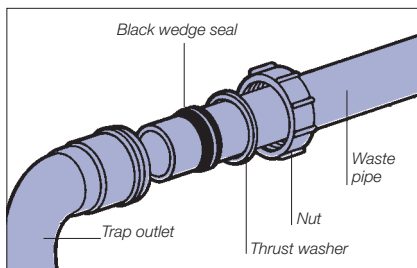
V-Joint Traps have a three-part compression type outlet incorporating an internal sleeve. To connect pipe:

PROCEDURE

1. Remove outlet nut, red outlet thrust washer and black wedge seal
2. Clean off any burrs or rough edges and chamfer the inside of the pipe (if necessary)
3. BS EN 1451-1, BS 5254 plastic pipe should be first warmed in hot water to enable it to be pushed over the internal sleeve and into the trap
4. Slide the nut and red washer over the pipe. Push the black seal onto the pipe with the thick end towards the red washer
5. Firmly push the pipe into the trap. Slide the washer and seal to the edge of the outlet
6. Hand tighten the nut, finishing with a quarter turn using a spanner or wrench

NOTE: If the plastic pipe is undersized, or out of shape, the end of the pipe may need to be warmed in hot water

Fig. 68 Connection to V-joint trap outlet



All-Fit Conversion Bend

The 90° Conversion Bend 4A/5A830 converts a 'P' trap outlet to a 'S' trap outlet.

To connect pipe:

Simply lubricate the spigot end of the end and insert into the outlet socket of the trap.

Washing Machine Traps

Four different traps are available for connection to outlets of washing machines and dishwashers:

■ 'P' Half Trap 5V864

■ 'P' Full Trap 5V868

■ Trap 5V870 with Standpipe and two brackets

■ Adjustable 'P' Trap 5V869

Care should be taken to observe appliance manufacturer's installation instructions, particularly with regard to the height of the discharge hose and the incorporation of an air break or vent to atmosphere.

Making threaded connections

PROCEDURE

1. To help prevent capillary action, wrap PTFE tape around the male thread prior to screwing into the threaded socket or screwing on the threaded nut
2. Screw in hand tight plus a quarter turn. Do not over tighten, as damage may occur

NOTE: Do NOT use linseed oil based jointing compounds with plastic components

Making Bath Trap Overflow connections

PROCEDURE

1. Unscrew rose terminal and position in hole in bath
2. Fit rubber washer over threaded spigot on the outside of the bath. Screw into socket of overflow connections
3. Hand tighten and finish with a quarter turn with spanner or wrench

Bath Trap and WasteFlow Unit 5V859

Used with the Bath Trap, the WasteFlow Unit provides a bath overflow as well as a neat and convenient means of disposing of overflow from both cold water storage and WC cisterns.

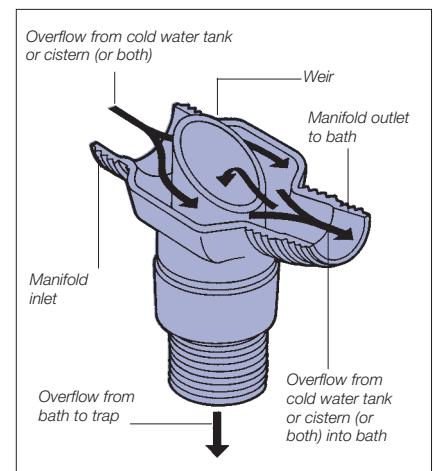
Use of the Wasteflow Trap eliminates the need for external overflow pipes and possible damage to walls through dripping overflows.

Water overflowing from the storage or WC cistern enters the bath through the overflow grating. This creates a nuisance value and indicates that the ball valve requires attention.

The design of the grating ensures that any water that discharges drips clear of the sloping end of the bath and is more noticeable. This water may then be let out of the bath via the waste outlet or, in the event of the bath filling, back through the bath overflow proper, finally passing through the waste trap.

A weir device is incorporated into the manifold unit as a safeguard against water flowing back along the overflow pipe. If the bath fills with water, the overflow discharge will be prevented from entering the overflow pipe by the 'weir' and pass safely down the flexible hose into the bath trap.

Fig. 69 Operation of WasteFlow Unit supplied with Bath Trap 5V859



Traps continued

Connecting Bath Trap Overflow

Connect Bath Trap Overflow in normal manner:

■ PROCEDURE

1. Unscrew rose terminal and position in hole in bath
2. Fit rubber washer over threaded spigot on the outside of the bath. Screw into socket of overflow connections
3. Hand tighten and finish with a quarter turn with spanner or wrench

Connecting Overflow Pipe

The WasteFlow Bath Trap has a 1½" male BSPT inlet for connection of between two and four 19mm connections via

WasteFlow Tees:

WasteFlow Tee – 2-way 5V836

Allows:

- Push-fit connection of up to two 19mm Push-Fit Overflow Pipes 1C074

- Solvent weld connection of up to two

Solvent Weld Overflow Pipes 1O074

with Adaptor 1O158 or 1O159

Solvent Weld Overflow Pipes 1O074 with Adaptor 1O158 or 1O159

WasteFlow Tee – 4-way 5V837

Allows:

- Push-fit connection of up to four 19mm Push-Fit Overflow Pipes 1C074

- Solvent weld connection of up to four Solvent Weld Overflow Pipes 1O074 with Adaptor 1O158 or 1O159

Shower Gullies

Shower Gullies

The OSMA range includes shower gullies for installation in tiled and sheet floor finishes. Both models include pre-drilled countersunk screw holes to the flange for installation within a timber-joisted floor.

Shower Gully – tiled floor

■ PROCEDURE

1. Cut hole in moisture resistant flooring board to take gully. Recess board so that top of drain flange is level with deck
2. Firmly secure drain body to deck via the pre-drilled crew holes to flange
3. Connect pipe using solvent weld joint
4. Apply waterproof membrane to manufacturer's instructions. Dress over rim of gully and secure with clamping ring
5. Affix tiles with approved waterproof adhesive, ensuring the OSMA tile or stainless steel tile is square over the gully
6. Insert circular grate in pre-formed hole in tile

Shower Gully – sheet floor

■ PROCEDURE

1. Cut hole in moisture resistant flooring board to take gully. Recess board so that top of drain flange is level with deck
2. Firmly secure drain body to deck via the pre-drilled screw holes to flange
3. Connect pipe using solvent weld joint
4. Lay the sheet flooring to manufacturer's instructions. Dress over rim of gully and trim sheet to edge of clamping rim screw holes
5. Screw clamping ring firmly in position
6. Engage bell, ensuring 'O' ring lodges beneath screw heads on the clamping ring

Pipe connection

Connect pipe to Shower Gully via a solvent weld joint. *For jointing procedure, see page 31.*

Overflows

Connection to tanks and cisterns

The OSMA PP Push-Fit Overflow system connects to tanks and cisterns via **90° Bent Tank Connector 1C139** (item supplied with two gaskets). This can be converted to a straight connector by cutting off the bend. To connect the PVC-U OSMA Solvent Weld Overflow system, use either **Straight Tank Connector 1O129** or **90° Bent Tank Connector 1O139** (each item is supplied with two gaskets).

PROCEDURE

1. Drill a hole with a saw cutter
2. Remove any burr or rough edge
3. Position a washer on either side of the cistern wall and fit the connector
4. Tighten the back nut with a spanner
5. Connect pipe. No solvent or lubricant is required

For connections to screened overflow on drinking water cisterns, refer to manufacturer's instructions.

Connection to 3/4" BSPT male thread

OsmaWeld Overflow pipework can be connected to 3/4" BSPT male thread using **Cap & Liner 1O156**.

Connection to BS 659 compression fittings

OSMA PVC-U Solvent Weld Overflow pipework can be connected to compression fittings manufactured to **BS 659** using **Straight Adaptor 1O158** or **90° Adaptor 1O159**.

Pipe bending

19mm Overflow pipe may be bent to a minimum of 50mm [2"] radius.

PROCEDURE

1. Using a blow lamp or butane torch, apply a gentle heat to the pipe approx. 50mm [2"] either side of the bend
2. When the pipe is pliable, insert a standard 19mm [3/4"] bending spring
3. Pull to the required radius and restrain while pipe cools

NOTE: Bending of pipe in excess of 19mm [3/4"] is not recommended

Overflow termination options

After penetration of the building wall, overflow pipe ends on the exterior should be terminated in one of the two following ways:

- Splay cut end
- OR
- Fit with a **90° Tee 1O190** to inhibit entry of freezing draughts

Tundish - for overflow in basement areas

Unlike overflow systems above ground level, excess water from tanks or cisterns located in basement areas cannot be carried to a visible point on the building exterior.

To ensure that any overflow is visible in areas of a building below ground level, install **Tundish 1O149** along the vertical route of the overflow pipe. This should be placed as near as possible to the cistern or tank, and in a visible position. A 25mm air gap should be allowed between the end of the overflow pipe and the rim of the Tundish in order to identify the source of the discharge.

IMPORTANT NOTE: Do NOT connect overflow pipework to soil and waste discharge stacks or branches

Fig. 70 Terminating overflow pipe

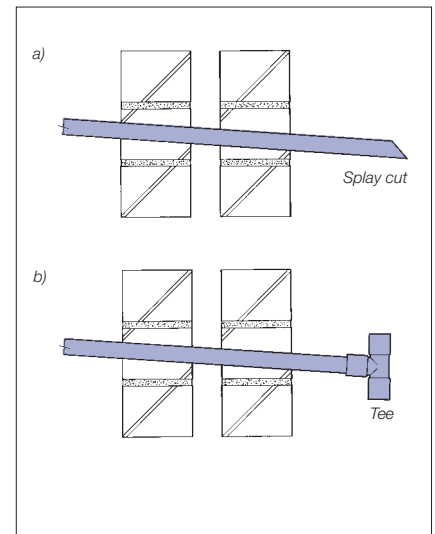


Fig. 71 Tundish connection to 19mm Solvent Weld Overflow Pipe

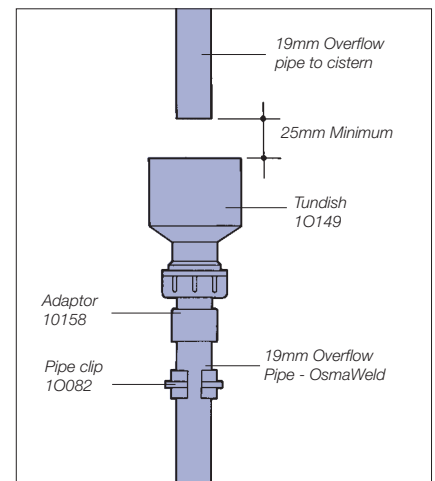
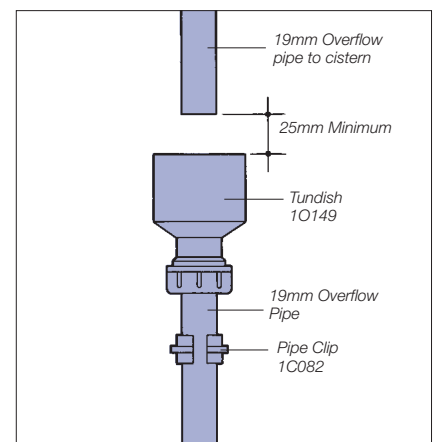


Fig. 72 Tundish connection to 19mm Push-Fit Overflow Pipe



Overflows continued

Overflow for a range of WCs

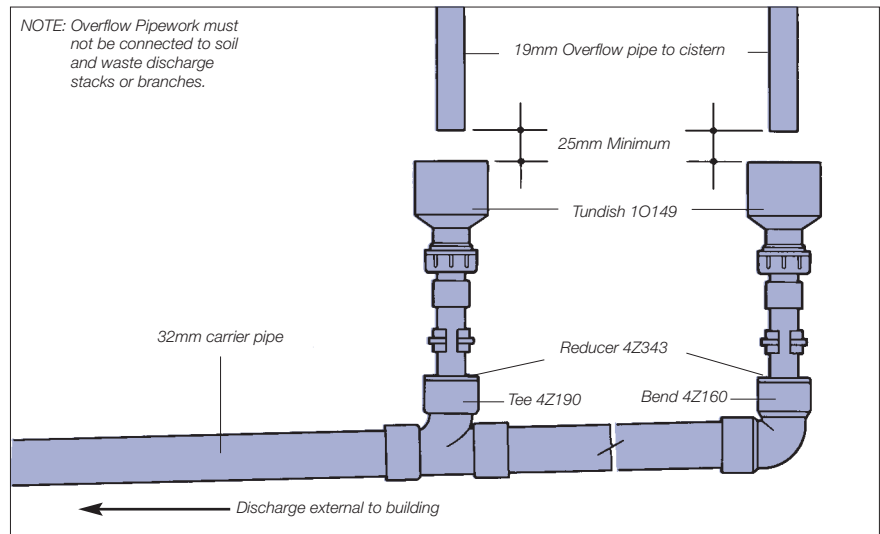
The actual source of excess water flowing from a range of WC cisterns needs to be easily and quickly identified.

To ensure that any overflow discharge is identifiable and visible in such multiple installations, install **Tundish 10149** between the overflow pipe from each cistern and a carrier manifold pipe. A 25mm air gap should be allowed between the end of the overflow pipe and the rim of the Tundish in order to identify the source of the discharge.

IMPORTANT NOTE: Do NOT connect overflow pipework to soil and waste discharge stacks or branches

Fig. 73 Typical Tundish – carrier pipe installation

NOTE: Overflow Pipework must not be connected to soil and waste discharge stacks or branches.



Breather Vent

For use on mastic asphalt or built-up roofing. **Breather Vent 4S700** allows moisture laden vapour to escape from the roof screed. For design detailing, please see page 26.

Mastic asphalt roofing

PROCEDURE

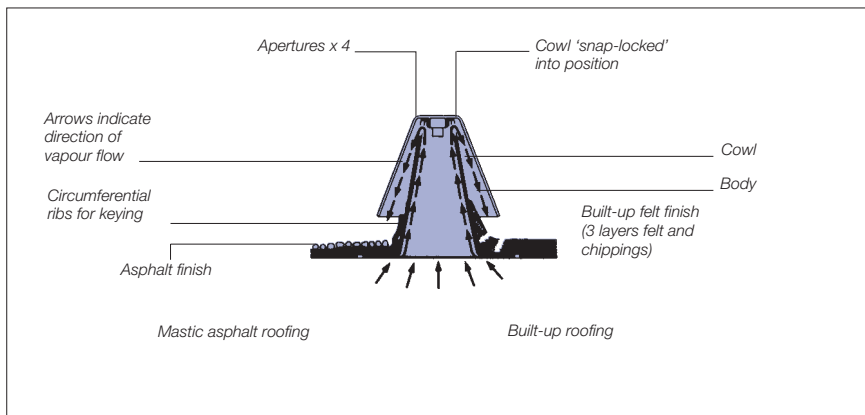
1. Snap off cowl from body of Vent
2. Cut a 204mm diameter hole in the asphalt and sheathing felt
3. Place the Vent directly onto the exposed roof deck
4. Pin through the holes in the Vent base
5. Apply hot asphalt over the base and dress to the cone. Terminate just above the top ridge
6. Snap-lock the cowl into position

Built-up roofing

PROCEDURE

1. Snap off cowl from body of Vent
2. Draw a 204mm diameter circle on the screed in the required position
3. Do not directly apply concrete primer or mastic to the surface within this circle
4. Place the Vent centrally on the circle
5. Pin through the holes in the Vent base
6. Apply the base layer felt up to the edge of the flange
7. Apply the second layer to the cone up to the first ridge
8. Apply the third layer to the cone up to the third ridge
9. Snap-lock the cowl into position

Fig. 74 Installation of Breather Vent



Extract Valve

4S709 SW/S Extract Valve

For use with ventilation and extract systems where regulated airflows are required.

Installing valve

PROCEDURE

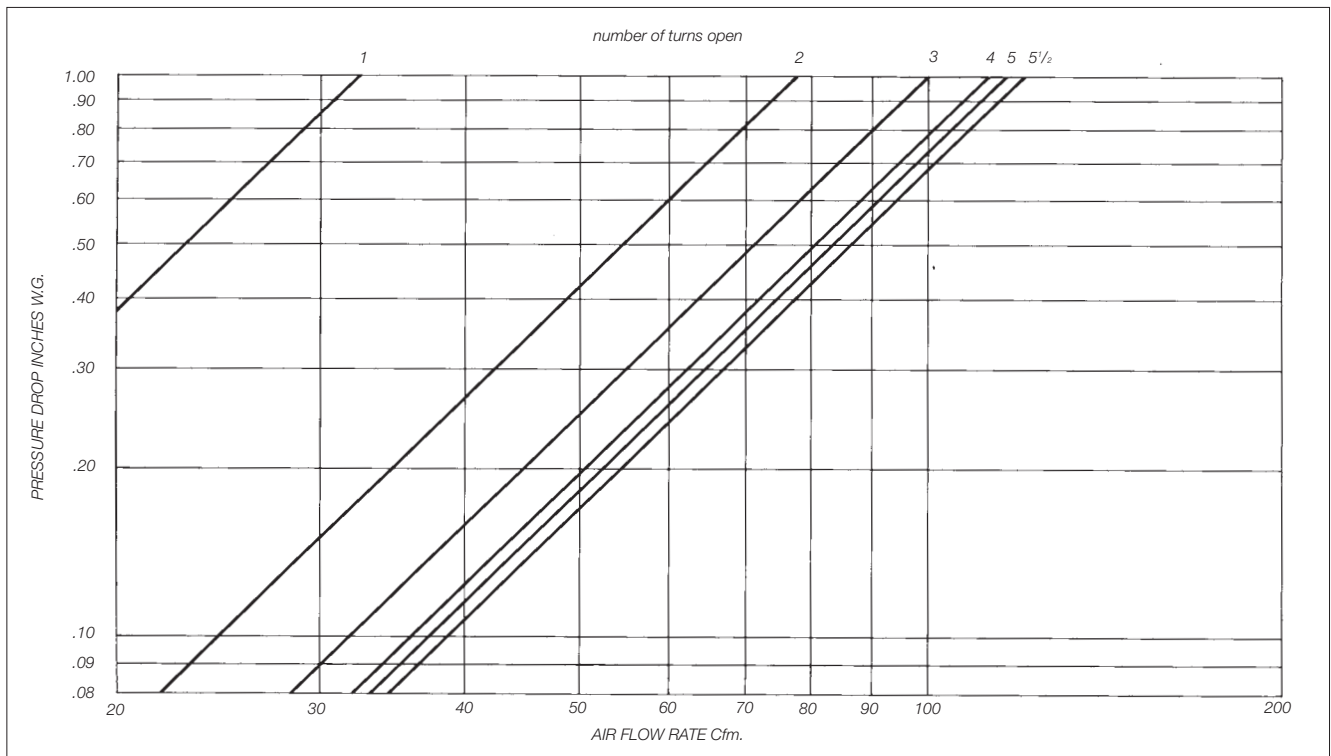
1. If the socket on the mounting plate is longer than the finished thickness of plaster, cut back socket to the required length. The surface on the socket is ringed to ensure a straight smooth cut using a fine toothed saw
2. Fix mounting plate to wall with rustless nails or screws through the four fixing holes provided
3. Plaster over and right up to the valve socket, the front of which should be flush with the finished surface. The ridges on the front of the plate ensure good adhesion
4. Push the valve body firmly home onto the valve socket
5. Solvent weld 110mm PVC-U pipe into the solvent socket on the reverse side of the mounting plate

Adjusting airflow

PROCEDURE

1. Remove the snap cover plate by inserting a fine blade in the crack and twisting. The locking key is located under the cover plate
2. Calculate air flow rate and number of turns required (see Fig. 75 below)
3. Screw the adjustment plate fully home and then open by the correct number of turns to give the correct airflow (the locking key being square, may be inserted at quarter turn intervals)
4. Return locking key to prevent interference with the setting
5. Snap cover back into position

Fig. 75 Airflow rates for Extract Valve



Maintenance

OSMA Soil & Waste systems are designed to be virtually maintenance-free.

Blockages

In the event of any blockage, use only flexible or roller type rods. Metal pointed or boring types are not recommended.

Mechanised rodding should be carried out by trained operators only.

Cleaning Pipework

Cleaning can be undertaken with a damp cloth or mild detergent.

Air Admittance Valves

Periodically check that the diaphragm is clear of obstruction.

Fire Stop Seals

No maintenance required. However:

- Regularly inspect for any damage
- Remove and replace any damaged seal

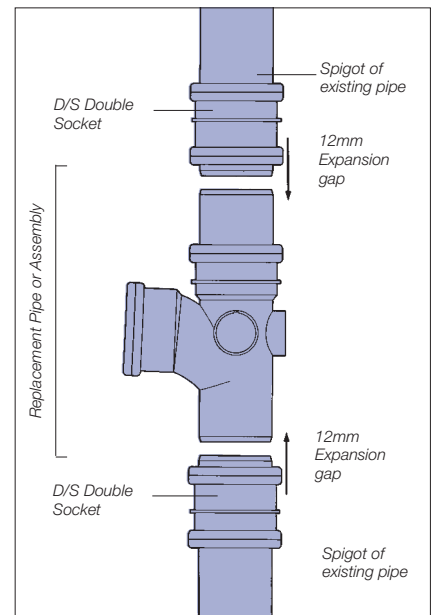
Repairs

If a section of the soil stack requires replacement, either to effect repair or to incorporate a fitting post construction, use **D/S Double Socket 3S/4S/6S105**.

PROCEDURE

1. Assemble all necessary fittings to be incorporated, or prepare the required length of pipe allowing for a minimum spigot length at each end as follows:
 - For 82mm or 110mm pipe: 60mm
 - For 160mm pipe: 100mm
2. Cut out the appropriate length of the existing pipe, allowing for an expansion gap of 12mm at each end
3. Chamfer and lubricate the spigots of the existing pipe and fit a D/S Double Socket completely over each one
4. Position the new pipe section or assemble using socket brackets where necessary and lubricate the spigots
5. Slide the D/S Double Socket over the new spigots to position each one centrally over the joint/expansion gap
6. Fix the D/S Double Socket in place using socket brackets in their final position

Fig. 76 Incorporating a fitting



Testing

On completion of any installation work, the systems should be inspected and tested in accordance with **BS EN 12056** and **Part H** of the **Building Regulations**.

Air testing is the preferred form of leak detection. The use of smoke testing of plastics pipework should be avoided.

Safety

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

When making solvent weld joints it is essential to observe normal safety rules for handling solvent i.e.

- Never smoke or bring naked flames near the area of work
- Work in a well ventilated area to avoid inhaling fumes

- Close the solvent container after use and store in a cool area

- Do not allow solvent or cleaners to come into contact with the skin

COSHH (Control of Substances Hazardous to Health) Regulations should be referred to where applicable.

Copies of data sheets are available from the Technical Design Department. *Contact Wavin Technical Enquiries.*

Materials

Pipes and most fittings in OSMA Soil & Waste systems are manufactured from the following materials, as individually denoted in the product listings in this Guide

SYSTEM	MATERIAL
OSMA Soil	
- Ring Seal	PVC-U
- Solvent Weld	PVC-U
OSMA Waste	
- OSMA Weld	ABS
- MUPVC	MUPVC
- Pushfit	PP
- Clearbore	PP
OSMA Overflow	
Solvent Weld	PVC-U
Clearbore	PP

Acceptance

OSMA Soil & Waste systems comply, where applicable, with the requirements of the following British Standards:

- **BS 3943:1983** Specification for waste traps
- **BS 4514:2001** Unplasticised PVC soil and ventilating pipes, fittings and accessories (82.4mm minimum mean outside diameter)
- **BS 5255:1989** Thermoplastic waste pipes and fittings
- **BS 6209:1982** Solvent cement for non-pressure thermoplastics pipe systems
- **BS EN 1329-1:2000** Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. PVC-U
- **BS EN 1451-1:2000** Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. PP



The British Standard Kitemark identifies pipe and fittings that are manufactured under the BSI certification scheme.



OSMA Soil systems have been awarded British Board of Agrément [BBA] certification as follows:

- **Air Admittance Valve 40** and **Air Admittance Valve 110**
- **110mm Adjustable Bends**

References

OSMA Soil & Waste systems should be designed and installed in accordance with the guidance provided in the appropriate sections of the following:

- **Building Regulations 2000 (England and Wales):** Approved Document H, Part H1
- **Building Standards (Scotland) Regulations 1993-2002** (including current amendments: Technical Standards Part M)
- **Building Regulations (Northern Ireland) 2000:** Technical Booklet N
- **BS 8000 Workmanship on Building Sites: Part 13:** 1989 Code of Practice for above ground drainage and sanitary appliances
- **BS 752: 1997** Code of Practice for building drainage
- **BS EN 12056: 2000** Gravity drainage systems inside buildings: Part 3 Roof drainage, layout and calculation
- **Painting plastics:** IP 11/1979. Watford, BRE 1979
- **Water Regulations Guide:** London, Water Regulations Advisory Scheme, 2000

SOIL & WASTE SYSTEMS

General Information

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, MUPVC, ABS, 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.

Copies of Safety Data Sheets covering PVC-U, ABS, MUPVC, PP, PE, lubricant, solvent cements and cleaners are available from the Wavin Technical Design Department. *Contact Wavin Technical Enquiries.*

Abbreviations

- P/E:** Pipe and fittings with both ends plain or with one plain end and one special end.
- S/S:** Pipe and fittings with one or more ring-seal or push-fit sockets, but always one plain or special end.
- D/S:** Fittings with ring-seal or push-fit sockets at all ends.
- S/SW:** Fittings with one or more ring-seal sockets but always one solvent socket.
- SW/S:** Fittings with one or more solvent sockets and one plain or special end.
- D/SW:** Fittings with solvent sockets at all ends.

Supply

All OSMA systems are supplied through a nationwide network of merchant distributors. *For details of your nearest stockist, 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

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

How to Order

Each product is identified by a **Part Number**, followed by (where relevant) the relevant **colour reference** to provide the full **Catalogue Code**. Colour reference codes are as follows:

Colour	Ref. Code
Black	B
Grey	G
Olive	E
White	W
Brown	N

EXAMPLE:

The Part Number for a **110mm Soil Pipe Bracket** is **4S082**. This is available in a choice of five colours: Black (B), Grey (G), Olive (E), White (W), and Brown (N).

To order 40 x 110mm Soil Pipe Brackets in Grey, simply quote:

■ Quantity required plus

■ Catalogue Code (i.e. **Part Number** with the **Colour Reference Code** added) plus

■ Description

Thus, the order would be: **40 x 4S082G 110mm Soil Pipe Brackets.**

To place an order, contact Wavin Sales Office

Tel: 01249 766611 Fax: 01249 443473

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Technical Advice and Assistance

OSMA Soil & Waste systems are backed by Wavin's comprehensive technical advisory service. This is available to provide expert assistance at every stage of a project, from planning and product selection to installation and maintenance.

Services include:

- Full technical literature, including:
 - System Product Guides
 - Design and Installation Guides
 - Trade Price Lists
- Assistance with Soil & Waste systems product selection
- On site advice and troubleshooting
- Design and production of bespoke fittings to meet specific application requirements

Contact Wavin Technical Design Department for prompt assistance:

TECHNICAL DESIGN

Tel: 01249 766655

Fax: 01249 766653

Email: technical.design@wavin.co.uk

To request a copy of any item(s) of current literature, please contact:

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Further Information

OSMA SOIL & WASTE SYSTEMS

The following related publications are available for OSMA Soil & Waste systems:

- Product Guide
- Trade Price List

ASSOCIATED OSMA SYSTEMS

OSMA systems are fully integrated to provide a total solution for above and below ground drainage, plumbing and heating. Contact Wavin Technical Design Department for further details regarding:

- OSMA Rainwater systems
- OSMA Flexible Plumbing systems
- OSMA Underfloor Heating systems
- OSMA Below Ground Drainage systems
- OSMA Water Management systems
- OSMA Ducting systems
- OSMA Pressure Pipes for Water
- OSMA Pressure Pipes for Gas



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The complete OSMA product catalogue, together with design and installation guidance, is also available online at: www.wavin.co.uk

All literature can be downloaded via the searchable PDF library at: www.wavinpdfs.co.uk

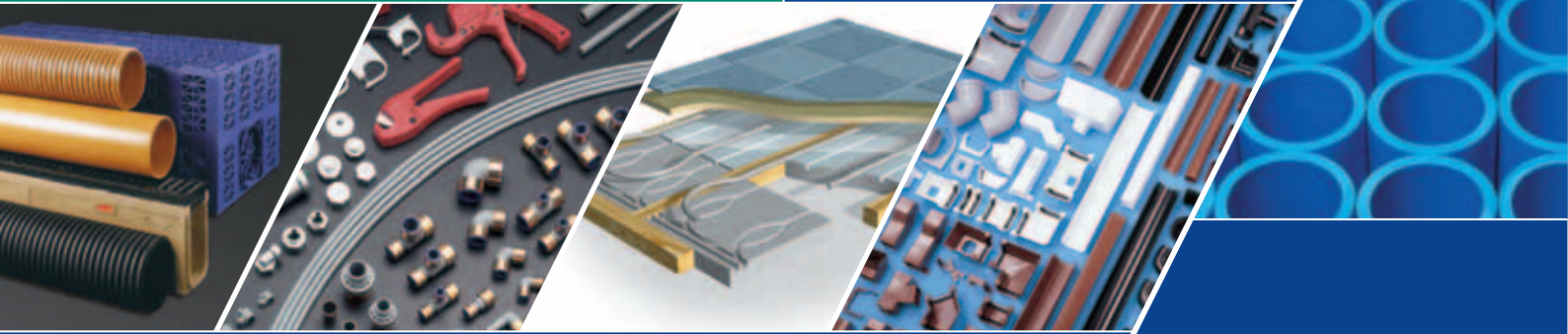
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OSMA

Soil & Waste Systems

Design & Installation Guide



Meeting your needs

OSMA Soil & Waste systems, developed by Wavin Plastics Limited, form part of a comprehensive range of plastic systems to provide intelligent solutions for all building, construction and utilities projects.

These include:

Above Ground Projects

- ▲ OSMA Rainwater systems
- ▲ OSMA Soil & Waste systems

Plumbing & Heating Projects

- ▲ OSMA Flexible Plumbing systems
- ▲ OSMA Underfloor Heating systems

Below Ground Projects

- ▲ OSMA Below Ground Drainage systems
- ▲ OSMA Water Management systems
- ▲ OSMA Ducting systems

Pressure Pipe Projects

- ▲ OSMA Pressure Pipes for Water
- ▲ OSMA Pressure Pipes for Gas

All OSMA systems are backed by full technical literature and project support. See inside back cover for details.

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