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Agrément Certificate  
**87/1835**  
Product Sheet 1

### OSMADRAIN UNDERGROUND DRAINAGE SYSTEM

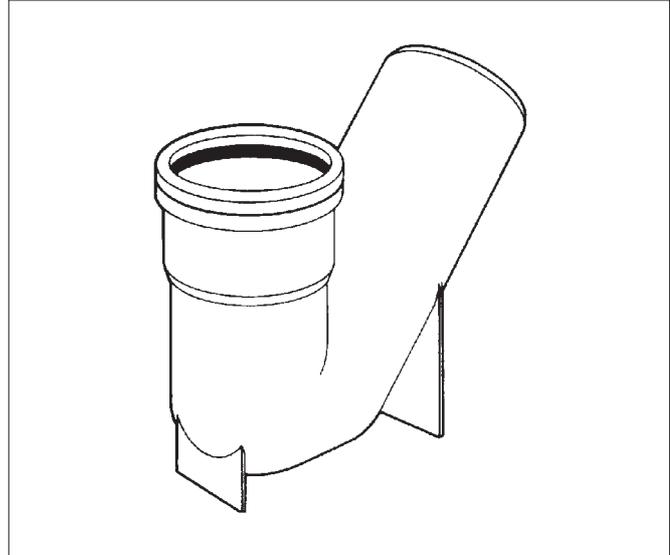
### OSMADRAIN UNIVERSAL GULLY SYSTEM

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the OsmoDrain Universal Gully System, for use with 110 mm PVC-U underground drain pipes and fittings to BS EN 1401-1 : 2009 and BS 4660 : 2000, to receive surface water from paved areas inaccessible to wheeled vehicles, surface water from roofs and/or waste water from ground floor domestic appliances.

#### AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



#### KEY FACTORS ASSESSED

**Mechanical properties** — the components of the gully system have adequate strength to resist loads associated with installation and with subsequent use (see section 5).

**Performance of joints** — joints will remain watertight and will not be adversely affected by thermal expansion (see sections 6.1 and 6.2).

**Flow characteristics** — the gully system has adequate flow characteristics (see section 7.1).

**Resistance to chemicals** — the gully system will be unaffected by chemicals likely to be found in domestic sewage (see section 8).

**Resistance to elevated temperatures** — the gully system has adequate resistance to elevated temperatures likely to be found in domestic sewage (see section 9).

**Durability** — the gully system will have a life in excess of 50 years (see section 12).

The BBA has awarded this Agrément Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 5 October 2010

Originally certificated on 29 April 1987



Brian Chamberlain

Head of Approvals — Engineering



Greg Cooper

Chief Executive

*The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at [www.bbacerts.co.uk](http://www.bbacerts.co.uk)*

*Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

# Regulations

In the opinion of the BBA, the OsmaDrain Universal Gully System, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



## The Building Regulations 2010 (England and Wales)

Requirement:	H1	Foul water drainage
Comment:		The system will convey the flow of foul water and minimise the risk of blockages or leaks. See sections 3, 5, 6.1 and 6.2, 7.1 and 7.2, 8, 9, and 10 of this Certificate.
Requirement:	H3(3)	Rainwater drainage
Comment:		The system will convey the flow of rainwater and minimise the risk of blockages or leaks. See sections 3, 5, 6.1 and 6.2, 7.1 and 7.2, 8, 9, and 10 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The system is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.



## The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The use of the system satisfies the requirements of this Regulation. See sections 11 and 12 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.6(a)	Surface water drainage
Comment:		The system will meet the relevant requirements of this Standard, with reference to clauses 3.6.1 <sup>(1)(2)</sup> , 3.6.2 <sup>(1)(2)</sup> and 3.6.3 <sup>(1)(2)</sup> . See sections 3, 5, 6.1 and 6.2, 7.1 and 7.2, 8, 9, and 10 of this Certificate.
Standard:	3.7(b)	Wastewater drainage
Comment:		The system will meet the relevant requirements of this Standard, with reference to clauses 3.7.3 <sup>(1)(2)</sup> and 3.7.4 <sup>(1)(2)</sup> . See sections 3, 5, 6.1 and 6.2, 7.1 and 7.2, 8, 9, and 10 of this Certificate. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The system is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The system is acceptable. See section 11 of this Certificate.
Regulation:	N4(a)(b)	Underground foul drainage
Comment:		The system will convey the flow of foul water and minimise the risk of blockages or leaks. See sections 3, 5, 6.1 and 6.2, 7.1 and 7.2, 8, 9, and 10 of this Certificate.
Regulation:	N5(a)(b)	Rain-water drainage
Comment:		The system will convey the flow of rainwater and minimise the risk of blockages or leaks. See sections 3, 5, 6.1 and 6.2, 7.1 and 7.2, 8, 9, and 10 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 13 Procedure (13.1) of the *Installation* part of this Certificate.

# Non-regulatory Information

## NHBC Standards 2010

NHBC accepts the use of the OsmaDrain Universal Gully System, when installed and used in accordance with this Certificate, in relation to *NHBC Standards, Part 5 Substructure and ground floors, Chapter 5.3 Drainage below ground.*

# General

This Certificate relates to the OsmaDrain Universal Gully System for use with 110 mm PVC-U underground drain pipes and fittings to BS EN 1401-1 : 2009 and BS 4660 : 2000, to receive surface water from paved areas inaccessible to wheeled vehicles, surface water from roofs and/or waste water from ground floor domestic appliances.

## Technical Specification

### 1 Description

1.1 The universal gully system is assembled from a range of components to allow various inlet and outlet arrangements to be assembled on site. The basic components are the gully trap, hopper and outlet bend (see Table 1 and Figures 1, 2 and 3). Dimensions are given on the Certificate holder's website.

*Table 1 Universal gully system components*

Manufacturer's catalogue no.	Product
4D 161 <sup>(1)</sup>	Single socket short radius 87½° bend
4D 169 <sup>(2)</sup>	Single socket short radius 87½° access bend
4D 500	Single socket gully trap
4D 503	Solvent weld socket hopper (plain)
4D 504	Solvent weld socket hopper (vertical inlet)
4D 507	Plain ended hopper (plain)
4D 508	Plain ended hopper (vertical inlet)
4D 526	Sealed access plate
4D 527	Plain ended sealed access hopper
4D 561 <sup>(1)</sup>	Double socket short radius 87½° bend
4D 563 <sup>(1)</sup>	Double socket short radius 45° bend
4D 569 <sup>(2)</sup>	Double socket short radius 87½° access bend

(1) Component is kitemarked to BS EN 1401-1 : 2009.

(2) Component is kitemarked to BS 4660 : 2000

*Figure 1 Typical combinations for use with universal gully*

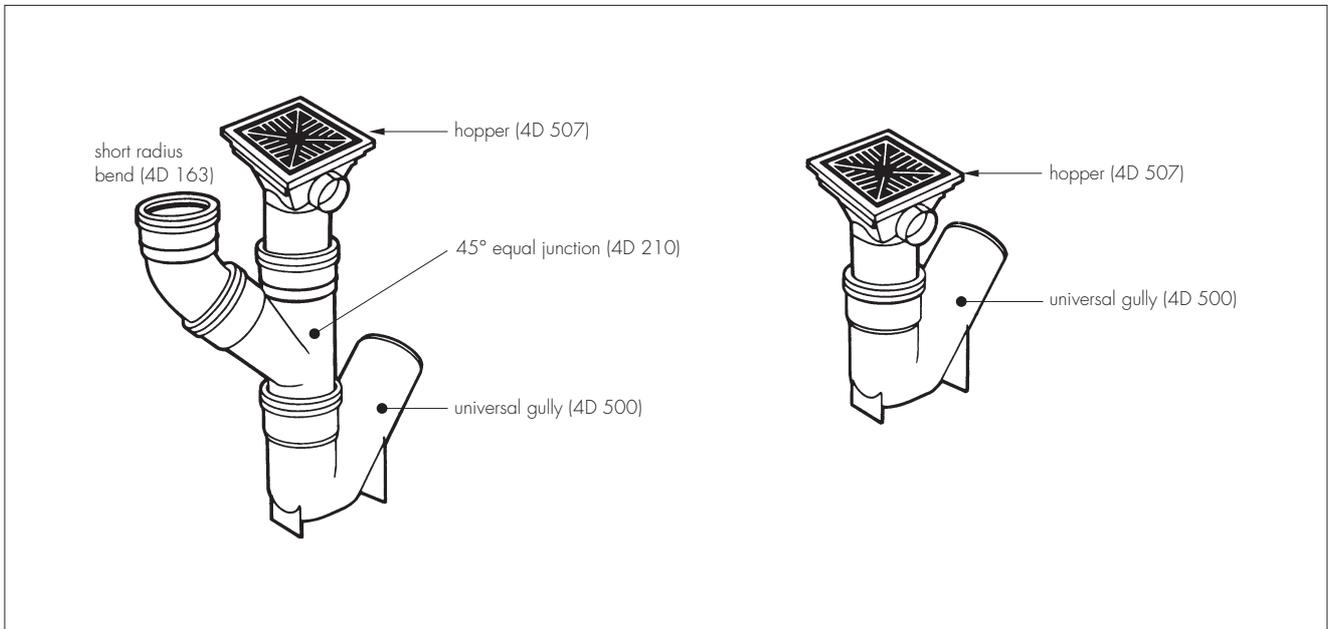


Figure 2 Alternative assemblies

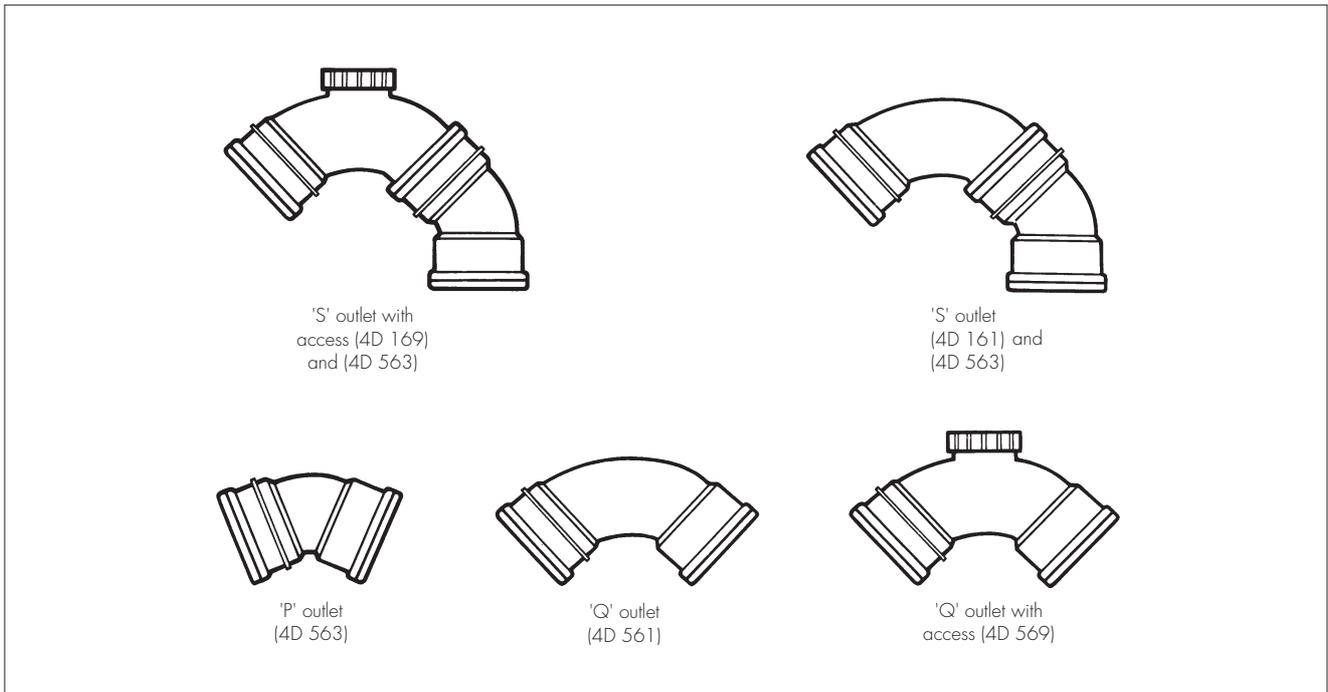
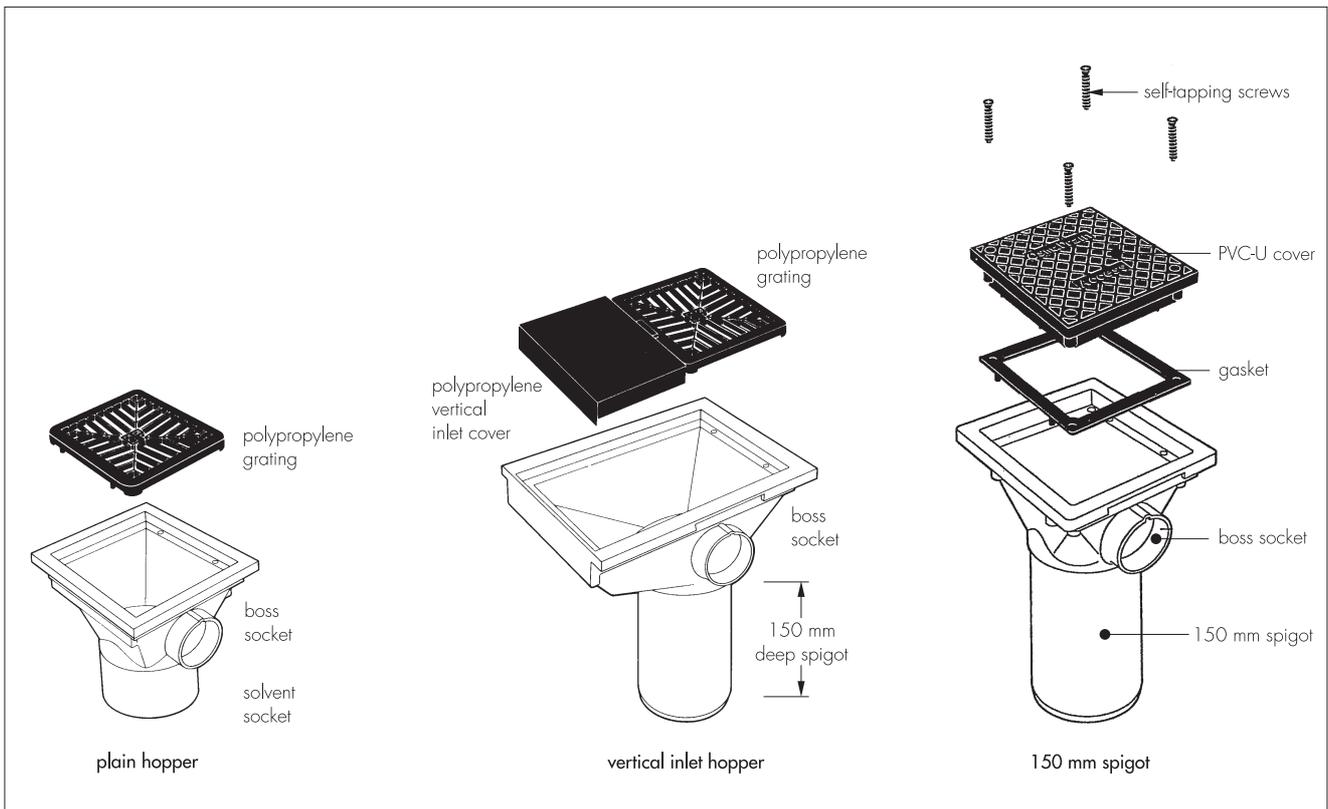


Figure 3 Detail of hoppers



1.2 The gully trap and hoppers and the sealed access cover are injection moulded in PVC-U. Inlet covers and gratings are injection moulded in polypropylene as shown in Figure 3. These components comply with the quality and colour requirements of BS EN 1401-1 : 2009 and BS 4660 : 2000. Continuous quality control is exercised during manufacture and includes checks on stress relief and dimensional accuracy.

1.3 Outlet bends and outlet access bends are injection moulded in PVC-U and kitemarked to BS EN 1401-1 : 2009 and BS 4660 : 2000 respectively.

1.4 The 110 mm diameter ring seals are either Ethylene Propylene Diene Monomer rubber (EPDM) or Thermoplastic Elastomer (TPE) to BS EN 681-1 : 1996 or BS EN 681-2 : 2000 respectively.

## 2 Delivery and site handling

- 2.1 The components are delivered to site in plastic bags containing similar items, and should remain in their packaging during storage to minimise the risk of loss or damage.
- 2.2 If long term storage in the open is likely then the fittings should be shaded from direct sunlight.
- 2.3 All fittings are engraved with the number of this Certificate except those shown as kitemarked in Table 1.

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the OsmaDrain Universal Gully System.

## Design Considerations

### 3 General

 The OsmaDrain Universal Gully System is suitable for use in domestic drains designed in accordance with BS EN 752 : 2008 for the conveyance, by combined or separate systems, of surface water and domestic sewage as is permitted to be discharged into public sewers by the Water Industry Act 1991, Chapter 56, and surface water and sewage as is permitted and defined by the Sewerage (Scotland) Act 1968 and the Water and Sewerage Services (Northern Ireland) Order 1973.

### 4 Practicability of installation

The system is designed to be installed by a competent contractor experienced with this type of system.

### 5 Mechanical properties

 The components of the universal gully system have adequate strength to resist loads associated with installation and subsequent use in locations inaccessible to wheeled vehicles.

### 6 Performance of joints

 6.1 Joints between the components of the gully system, and between the gully system and drainage systems complying with BS EN 1401-1 : 2009 and BS 4660 : 2000, will remain watertight under conditions of deformation and pipeline deflection in excess of those expected to occur in normal good drainage practice.

6.2 The dimensions of sockets and sealing rings are such as to give satisfactory joints. The performance of the joints will not be affected by thermal movement when the system is correctly installed and limited to the conditions of use set out in this Product Sheet.

### 7 Flow characteristics

 7.1 The gully system has adequate flow characteristics and will retain an effective water seal in conditions of induced or self-siphonage in excess of those associated with good drainage practice.

7.2 The sealed access hopper remains airtight under normal service conditions.

### 8 Resistance to chemicals

 The universal gully system will be unaffected by those types and quantities of chemicals associated with waste water and surface water.

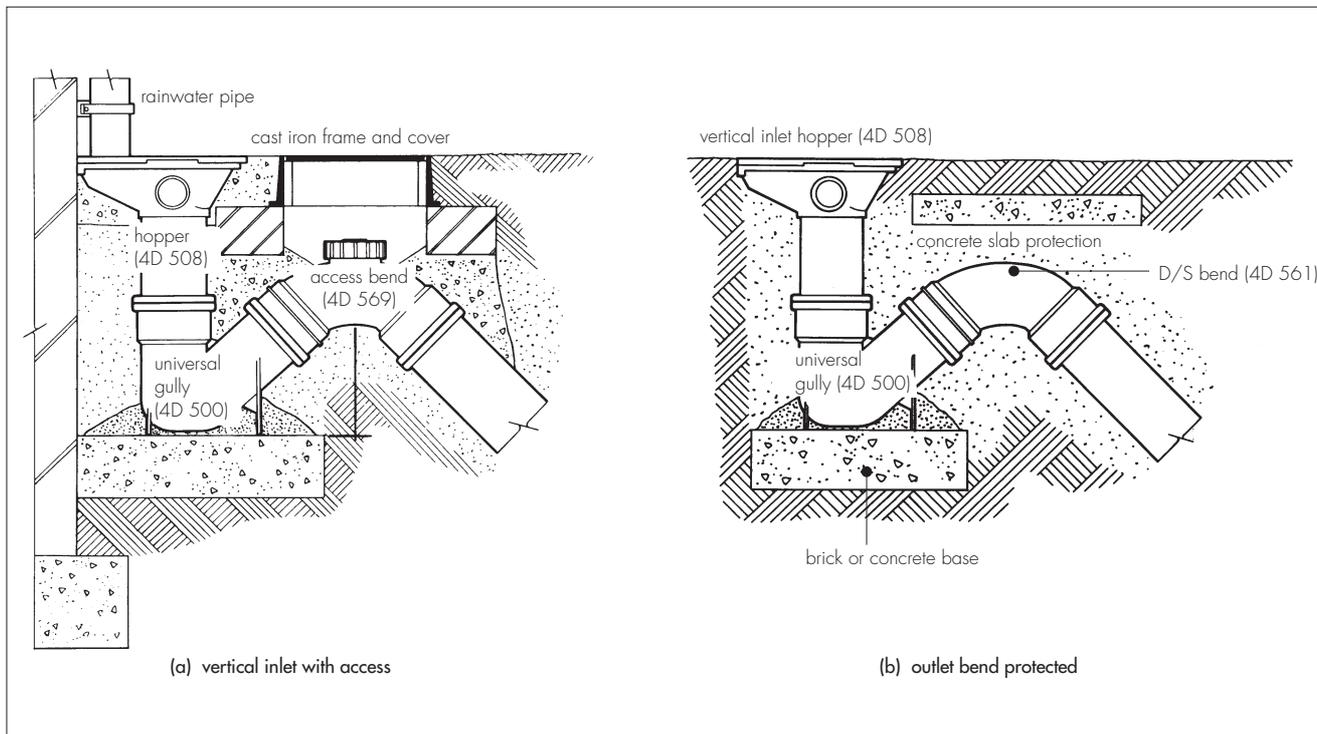
### 9 Resistance to elevated temperatures

 The gully system has adequate resistance to the temperatures likely to be found in waste and surface water.

### 10 Rodding

 If access is required for rodding the drain from a position near the gully, an access bend (4D 569) and a cast iron cover and frame assembly must be used (see Figure 4a). The drain cannot be rodded through the universal gully.

Figure 4 Typical installation details



## 11 Maintenance



Removal of the grating or sealed access plate will allow access to the gully trap for the removal of debris provided the recommended installation depths are not exceeded. Damaged gratings and covers can be easily replaced.

## 12 Durability



In the opinion of the BBA, when used in the context of this Product Sheet, the materials from which the components are manufactured will not significantly deteriorate, and the system will have a life in excess of 50 years.

## Installation

### 13 Procedure

13.1 Installation of the OsmoDrain Universal Gully System must be in accordance with BS 8000-14 : 1989, BS EN 1610 : 1998, BS EN 752 : 2008 and the current version of the Certificate holder's *OsmoDrain Installation Guide*.

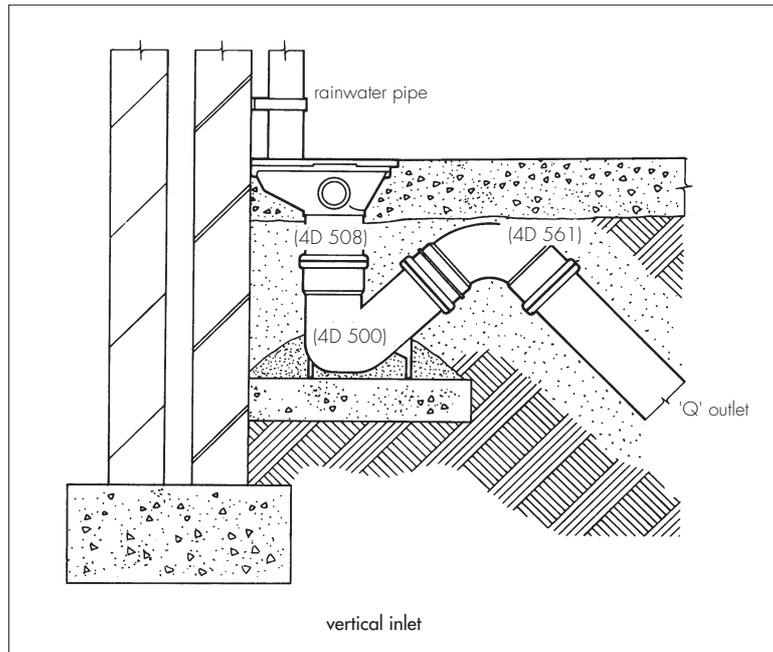
13.2 Precautions must be taken during and after installation to protect the gully arrangements from damage due to site traffic.

13.3 The universal gully system is assembled above ground and positioned on levelled bricks or a prepared concrete slab. The trap is bedded and surrounded in concrete to give full support to the base. Connections are then made and the assembly backfilled (as shown in Figures 4 and 5) with suitable granular material.

13.4 The crown of the outlet bend from the gully must be below the level to which garden implements can penetrate when it is not protected by paving or concrete at ground level. When this is not practicable a concrete slab should be bedded above the bend (see Figure 4b).

13.5 The depth from ground level to the base of the trap should not exceed 600 mm to facilitate the removal of debris.

Figure 5 Arrangements for particular use



## Technical Investigations

### 14 Tests

Tests were carried out to determine:

- dimensional accuracy
- effect of thermal cycling to BS 4514 : 1983
- Vicat softening point
- impact resistance
- practicability of installation
- watertightness
- airtightness.

### 15 Other investigations

15.1 An evaluation of existing data was made to assess the following:

- resistance to chemicals
- suitability of materials
- durability
- effect of siphonage on trap seal loss.

15.2 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of materials used.

15.3 An assessment was made of the flow characteristics.

15.4 A site visit was undertaken to assess the practicability of the installation instructions.

## Bibliography

BS 4514 : 1983 *Specification for unplasticized PVC soil and ventilating pipes, fittings and accessories*

BS 4660 : 2000 *Thermoplastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage*

BS 8000-14 : 1989 *Workmanship on building sites — Code of practice for below ground drainage*

BS EN 681-1 : 1996 *Elastomeric seals — Material requirements for pipe joint seals used in water and drainage applications — Vulcanized rubber*

BS EN 681-2 : 2000 *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Thermoplastic elastomers*

BS EN 752 : 2008 *Drain and sewer systems outside buildings*

## Conditions of Certification

### 16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

16.2 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

16.4 In granting this Certificate, the BBA is not responsible for:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

16.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.