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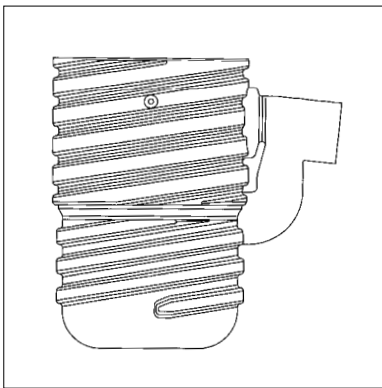
**Roads and Bridges
Agrément Certificate
No 90/R054**
Fourth issue*

Designated by Government
to issue
European Technical
Approvals

RIDGIGULLY POLYETHYLENE ROAD GULLIES

Élément de canalisation
Abzugsgraben

Product



- THIS CERTIFICATE RELATES TO RIDGIGULLY POLYETHYLENE ROAD GULLIES.
- The products are for use as trapped or untrapped road gullies for connection to Polypipe Civils Ltd's Ridgidrain ADS drainage systems or, with suitable adaptors, to PVC-U and clay drainage systems.
- The products are to be surrounded with concrete which must be in accordance with the Department of the Environment, Transport and the Regions, Highways Agency Requirements (DETR, HA).

Department of the Environment, Transport and the Regions, Highways Agency Requirements

1 Requirement

The requirements for road gullies are set out in the following DETR, HA Manual of Contract Documents for Highway Works (MCHW):

Volume 1 : *Specification for Highway Works* : 1998.

Volume 3 : *Highway Construction Details* : 1998, Drawing No F13.

Technical Specification

2 Description

2.1 Ridgigully Polyethylene Road Gullies comprise blow-moulded, corrugated, high density polyethylene (HDPE) gullies with a nominal internal diameter of 450 mm and available in depths of 790 mm and 900 mm (see Figure 1). The trapped gully (see Figure 2) incorporates an integral trap, outlet spigot and an HDPE access plug with a retaining strap. If the access plug is not used, the gully can be considered untrapped.

2.2 Polypipe Civils Ltd supply a range of connectors for various pipe types.

2.3 Quality control includes visual examinations on each moulding and checks on dimensions and weight.

Figure 1 Ridgigully details

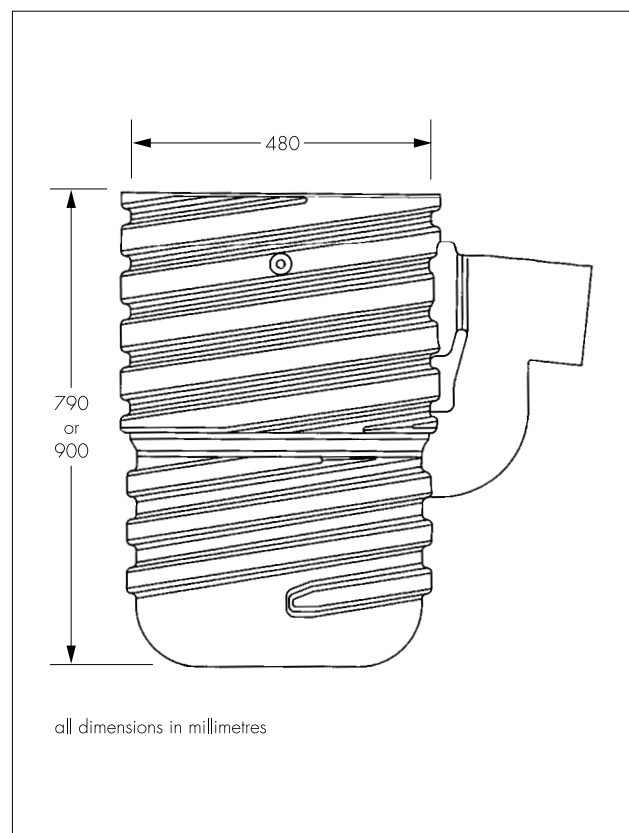
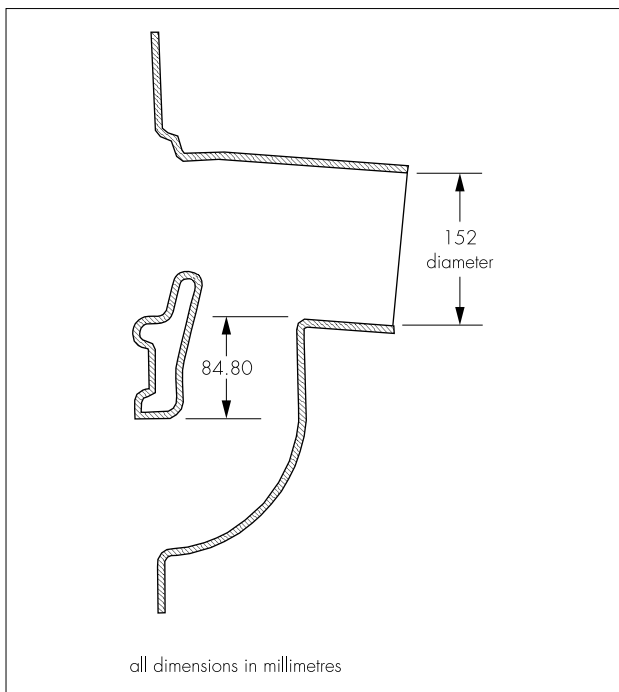


Figure 2 External trap details



3 Delivery to site, handling and storage

3.1 Ridgigully Polyethylene Road Gullies are delivered to site unprotected and are identified by the manufacturer's product code and label bearing the BBA identification mark incorporating the number of this Certificate.

3.2 The gullies have adequate resistance to damage during installation and site handling, they are light (with a weight of 5 kg to 6 kg) and are handled easily.

Design Data

4 General

Ridgigully Polyethylene Road Gullies are satisfactory for use when surrounded by a minimum thickness of 150 mm of concrete to the specification required by DETR, HA.

5 Flow characteristics

5.1 Ridgigully road gullies have flow characteristics equivalent to those of precast concrete units to BS 5911-2 : 1982.

5.2 The gullies have a holding capacity of 80 litres or 104 litres.

6 Strength and stability

6.1 The products have adequate strength to withstand the loads associated with placing the concrete.

6.2 The products have adequate resistance to impacts likely to be encountered during installation and emptying.

7 Watertightness

7.1 The Ridgigully outlet joints to Ridgidrain pipe, when installed as shown in Drawing No F13 of the DETR, HA's *Highway Construction Details*, without a concrete surround, are partly watertight in accordance with the DETR, HA's MCHW, Volume 1 : *Specification for Highway Works*, Clause 509.7. The joints will remain partly watertight under conditions of deflection in excess of those normally found on site.

7.2 When surrounded by concrete to the DETR, HA specification, and installed as shown in Drawing No F13 of the DETR, HA's MCHW Volume 3 : *Highway Construction Details*, the joints are fully watertight in accordance with the DETR, HA's MCHW, Volume 1 : *Specification for Highway Works*, Clause 504.3.

7.3 Joints to PVC-U to BS 4660 : 1989, and BS EN 1401-1 : 1998 and clay to BS EN 295-1 : 1991 can be made using adaptors designed to connect conventional thick walled clay pipe (outside diameter of 183 mm to 185 mm) to other drainage systems.

8 Rodding and maintenance

8.1 The drain from the gully may be rodded, using conventional flexible drain rods, by removing the access plug. In common with other standard plastic drainage systems, toothed root cutters and rods with metal ferrules used in some mechanical cleaning systems could damage the gully and should not be used. To maintain the effectiveness of the trap the plug must be replaced after rodding.

8.2 The gully has adequate resistance to being emptied using conventional suction tankers.

9 Practicability of installation

The gully is installed easily under normal site conditions.

10 Durability

When surrounded by concrete, the gully will have a life equivalent to that of precast concrete and clay gullies.

Installation

11 Procedure

11.1 A suitably sized pit is excavated allowing for a minimum surround of 150 mm of concrete to DETR, HA's specification and any trench shoring required.

11.2 A concrete base 150 mm thick is laid.

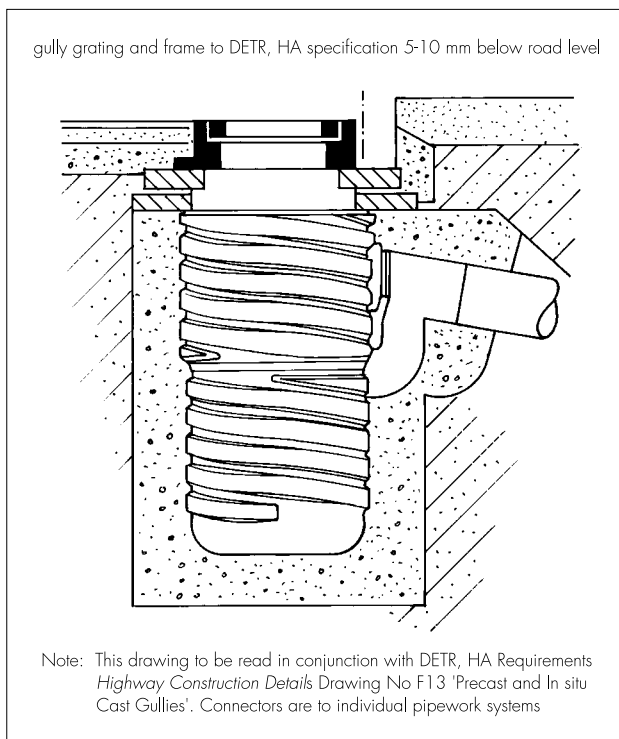
11.3 The Ridgigully road gully is placed in position, ensuring that it is level and in line with the branch drain.

11.4 The gully is connected to the branch drain using an appropriate adaptor.

11.5 The gully is surrounded, up to the lip, with a minimum of 150 mm of concrete (see Figure 3). To prevent distortion of the gully the concrete must be evenly distributed and must fully surround the outlet spigot and connection joint. The use of a vibrating poker will assist compaction of the concrete surround and reduce void formation. The gully may need weighting to hold it in the required position during installation.

11.6 The installation is completed by the construction of a suitable support for the cast iron grating and frame as shown in the DETR, HA's MCHW, Volume 3 : *Highway Construction Details*, Drawing No F13.

Figure 3 Typical installation details



Technical Investigations

The following is a summary of the technical investigations carried out on Ridgigully Polyethylene Road Gullies.

12 Investigations

12.1 The manufacturing and assembly processes were examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

12.2 Tests were carried out to determine:

- watertightness of joints
- resistance to external pressure equivalent to that of wet concrete
- capacity

- dimensional accuracy
- impact resistance
- environmental stress cracking resistance
- tensile strength
- ease of rodding
- Vicat softening temperature to BS 2782-1 : Method 120A : 1976
- melt flow rate to BS 2782-7 : Method 720A : 1979
- density to ISO 1183 : Method A (1970)1987.

12.3 An assessment of the durability of Ridgigully road gullies was made based on existing data relating to:

- resistance to chemicals
- flow capacity
- durability.

12.4 Visits were made to sites in progress to assess the practicability and ease of handling and installation.

Bibliography

- BS 2782 *Methods of testing plastics*
- BS 2782-1 *Thermal properties*
- BS 2782-1 : Method 120A : 1976(1983) *Determination of the Vicat softening temperature of thermoplastics*
- BS 2782-7 *Rheological properties*
- BS 2782-7 : Method 720A : 1979 *Determination of melt flow rate of thermoplastics*
- BS 4660 : 1989 *Specification for unplasticized polyvinyl chloride (PVC-U) pipes and plastics fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage*
- BS 5911 *Precast concrete pipes, fittings and ancillary products*
- BS 5911-2 : 1982 *Specification for inspection chambers and street gullies*
- BS EN 295 *Vitrified clay pipes and fittings and pipe joints for drains and sewers*
- BS EN 295-1 : 1991 *Requirements*
- BS EN 1401 *Plastics piping systems for non-pressure underground drainage and sewerage. Unplasticized poly(vinylchloride) (PVC-U)*
- BS EN 1401-1 : 1998 *Specifications for pipes, fittings and the system*
- ISO 1183 *Method for determining the density and relative density (specific gravity) of plastics excluding cellular plastics*
- ISO 1183 : Method A : (1970)1987 *Methods for determining the chemistry and relative density of non-cellular plastics*

Conditions of Certification

13 Conditions

13.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

13.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

13.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked by the BBA or its agents;

(c) are reviewed by the BBA as and when it considers appropriate; and

(d) remain in accordance with the requirements of the Department of the Environment, Transport and the Regions, Highways Agency.

13.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

13.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do 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 or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future 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 installation and use of this product.



In the opinion of the British Board of Agrément, Ridgigully Polyethylene Road Gullies are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 90/R054 is accordingly awarded to Polypipe Civils Ltd.

On behalf of the British Board of Agrément

Date of Fourth issue: 3rd May 2000

Chief Executive

**Original Certificate issued 12th September 1990, with revised issues following. This revised version issued to include reference to BS EN 1401-1 : 1998, a change in product dimensions and revised Figure 1 and Figure 2, and an updated Bibliography.*