

1. SCOPE

This schedule specifies the requirements for the assessment of Drainblock™ and Ratblock™ as manufactured by Steve Vick International (SVI). The device is an expandable resin containing bag, designed to permanently block a redundant sewer lateral or drain. It is applicable to clay, concrete, metal and plastic pipes for pipe diameters of 100mm (4") and 150mm (6") pipes. Devices for other pipe diameters can be made to special order.

2. PRODUCT DESCRIPTION

2.1 Introduction

The Drainblock™ is a woven nylon bag that is inserted into a redundant drain and expanded in position using expanding polyurethane resin foam. The polyurethane resin foam which has a delayed cure gel formula, is mixed in a sealed sachet that is then placed in a zippered Drainblock™ bag. The bag is pushed into the drain to the required position using drain rods. As the resin foam expands it forms a solid plug tight to the pipe wall of the host pipe, approximately 300mm in length. Once cured, the foam provides water, odour and gas tight seal within the pipe.

The Ratblock™ is an adaption of the Drainblock™, the zippered bag in which the sealed sachet of delayed cure polyurethane resin foam is placed has two articulated steel plates at either end. Once cured, the foam provides a water, odour and gas tight seal within the pipe and the steel plates block underground conduits as a passage for vermin.

The Drainblock™ and Ratblock™ have been designed for pipes of nominal diameter; 100mm (4") and 150mm (6"). It has been designed to function in all

drainage pipe materials, clay (including salt glazed), concrete, metal and plastics.

The products can be deployed from the access point to a range of 20 metres. The product can be installed into the host pipe either with or without man-entry into the sewer system and with both wet or dry internal surfaces.

2.2 Relevant standards

There are no product standards for long-term pipe blocking devices. However, there are several specifications that are generally relevant to sewers and specifically relevant to sewer sealing and repairs which have been taken into account.

The following performance requirements have been identified to determine "fitness for purpose" of the product:

- Leak tightness: Drain Repair Book -4th edition⁽¹⁾ and The Civil Engineering Specification for the Water Industry – CESWI 8th edition⁽²⁾ Resistance to infiltration Section 2.17 and test for Non Pressure Pipelines which is consistent with the provisions of BS EN 1610:2015⁽³⁾ Section 7.6.
- Resistance to movement of the installed foam bag in the host pipe
- Odour: CESWI 8th edition Section 10.3.
- Deterioration: Ability of the DrainBlock™ to not deteriorate in performance when in contact with typical drainage and sewer effluent.
- Installation: Ability to pass through typical drainage and sewer pipe

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configurations and defects and not damage the host pipe.

2.3 Materials standards

Steel plate in the Ratblock™ should conform to BS EN 10130:2006 cold rolled low carbon steel flat products for cold forming⁽⁴⁾.

2.4 Approval History

The Drainblock™ was originally awarded WRc Approved™ certification in September 2007.

- PT/267/0907
- PT/333/0912
- PT/418/0917

The Ratblock™ was originally awarded WRc Approved™ certification in September 2007.

- PT/267/0907
- PT/334/0912
- PT/419/0917

3. REQUIREMENTS AND TESTING

3.1 Type Testing

Leak tightness: The Drainblock™ shall be tested in accordance with the Drain Repair Book⁽¹⁾ External long-term pressure test and the 'Air Test for Non-Pressure Pipelines' detailed in CESWI 8th⁽²⁾. This is consistent with the provisions of BS EN

1610:2015⁽³⁾. The device shall be accepted if the air pressure remains above 75mm head after a period of 5 minutes.

Resistance to movement: The external long-term pressure test shall be used to determine any movement of the Drainblock™ over the 6 month test period. A pull test shall also be undertaken as proof of resistance to movement.

Deterioration: Test pieces shall be immersed in sewage for 6 months and examined for visible degradation.

All testing that is undertaken on Drainblock™ is applicable to Ratblock™.

3.2 Manufacture

To ensure the quality and performance of the Drainblock™ and Ratblock™, the manufacturing process shall include appropriate systems for the:

- Specification of component materials;
- Verification component materials received are to specification;
- Handling and storage of all component materials and finished units;
- Detailed drawing / schedule for manufacture
- Manufacture / assembly of Drainblock™ and Ratblock™
- Fabrication and quality control of workmanship.

The production of the Drainblock™ and Ratblock™ related quality control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

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3.3 Installation

When installed in accordance with the installation documentation⁽⁵⁾, the Drainblock™ and Ratblock™ shall be reasonably expected to perform as described.

4. APPROVAL

The Drainblock™ and Ratblock™ has been audited and successfully met all the requirements stated within this assessment schedule

Signed:

A handwritten signature in black ink, appearing to read 'Fleg', enclosed within a rectangular box.

Valid until 01 September 2027

5. REFERENCES

1. Drain Repair Book, 4th edition, 2017.
2. The Civil Engineering Specification for the Water Industry, 8th edition, 2022.
3. BS EN 1610:2015 Construction and testing of drains and sewers.
4. BS EN 10130:2006 cold rolled low carbon steel flat products for cold forming.
5. Drainblock™ Bag Instruction Leaflet (20/01/09, Version 2)