



## Assessment of the Sanipor system - schedule

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### 1. Scope

To assess the performance of the Sanipor system for the rehabilitation of domestic and industrial sewers and tunnels.

The system is designed for flood grouting the sewer, its laterals and main line manhole in one operation and is suitable for pipes up to 450mm diameter of any material. It is installed in the UK by Laing O'Rourke Utilities.

The relevant length of sewer is cleaned, isolated and the laterals are stoppered off. The Sanipor S1 solution is pumped into the section to be renovated until the level reaches the top of the manhole. The volume of exfiltration is monitored. The S1 solution is quickly pumped out and the Sanipor S2 solution pumped in, the level of exfiltration again being monitored. This process is repeated until there is no measurable exfiltration, or the client's specification is achieved.

### 2. Assessment schedule

The assessment comprises the following checks:

2.1 Technical audit of all relevant information including method statements for pre-installation procedures, environmental, planning, site preparation, preparation of solutions, receipt of solutions on-site and on-site application of the system.

2.2 Environmental Impact Assessment of the constituent chemicals within the S1 and S2 solutions.

2.3 Long term, i.e. 6 month, hydrostatic testing of the Sanipor repair to measure leaktightness

performance (maximum pressure 0.5 Bar).

2.4 Technical audit of the installation procedure by witnessing of two UK site installations.

### 3. Review of properties

From a comparison of standards and current U.K. Water Industry requirements, the following properties are deemed important. These were checked as part of the technical audit.

3.1 Environmental Impact Assessment using the protocol developed for sewer sealing systems (WRc report UC 3987, May 2002).

3.2 Long term external hydrostatic pressure testing of the Sanipor repair performance using the procedure developed for the CP167 "Long Term Testing of Sewer Repair and Sealing Techniques" project (WRc report UC 6532, November 2004).

### 4. Review of procedures

In addition to the performance of the Sanipor flood grouting system the following items were checked.

1. Quality control as it applies to:

- Incoming solutions;
- Site preparation;
- Preparation and checking of solutions, and;
- Commissioning.

2. Installation in accordance with the Sanipor Sewer Installation Process Operations Manual Version: U5422/Opsman1, 10<sup>th</sup> March 2005.

**PT/256/0806 – AS (August 2006)**

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**5. Reference documents**

1. WRc report UC 3987, May 2002, "Design and specification of sewer sealing systems".
2. WRc report UC 6532, November 2004 "Long term testing of sewer repair and sealing techniques".
3. Sanipor Sewer Installation Process Operations Manual Version: U5422/Opsman1, 10<sup>th</sup> March 2005.