# TECHNICAL MEMORANDUM 013 (Part 1)

**(Edition 1)**

# NEW MANHOLES / INSPECTION CHAMBERS USING BRICKWORK FOR FOUL WATER REMOVAL IN SMALL DOMESTIC PROJECTS

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Whilst building regulations does not control the aspect relating to the quality and look of your final building project. There are certainly many aspects of your build that you should pay attention to. The construction of new brickwork manholes is one particular component that should be built robustly.

You should note that manholes (or inspection chambers) can be built using proprietary pre-formed concrete rings (or rectangular sets) or pre-formed molded plastic chambers.

**Regulation 7** within The Building Regulations 2010 – Materials and Workmanship states :

**Regulation**

**Materials and workmanship**

**7.** (1) Building work shall be carried out—

(a) with adequate and proper materials which—

(i) are appropriate for the circumstances in which they are used,

(ii) are adequately mixed or prepared, and

(iii) are applied, used or fixed so as adequately to perform the functions for which they are designed; and

(b) in a workmanlike manner.

**Regulation 7** within The Building Regulations 2010 furthermore states that :

## Responsibility for compliance

People who are responsible for building work (e.g. agent, designer, builder or installer) must ensure that the work complies with all applicable requirements of the Building Regulations. The building owner may also be responsible for ensuring that work complies with the Building Regulations. If building work does not comply with the Building Regulations, the building owner may be served with an enforcement notice.

**Approved Document Part H – Drainage** provides other more detailed guidance relating to the size, positioning, bedding and other materials that may be used for the construction of manholes or inspection chambers.

**Photo 1**

**The above photo 1 is an example of a very poorly constructed brick drainage inspection chamber.**

It has not been constructed in accordance with current codes of practice and fails to meet the basic expectations contained with Regulation 7 of the Building Regulations 2010, relating to the materials and the workmanship used to construct the underground chamber for the purpose of foul water handling.

**This standard of construction shown above would therefore not be approved by our technical staff.**

In general, the following recommendations should be followed when constructing manholes or inspection chambers:

1. Use 229mm (9") Class B Engineering quality clay brickwork (BS EN 771-1) laid in English bond using 1:3 ratio sand cement minimum mix to form the chamber wall enclosure.

2. Internal channels must be formed using impervious materials fit for purpose (e.g. formed using plastic channels, or vitrified clay. Sand cement must not be used to form drainage channels.

3. Manhole brickwork must be built up from a 150mm concrete base

4. Vertical faces within the manhole chamber must not be internally rendered with cement etc. although the external faces of the chamber can be rendered if you choose. Only Internal benching can be formed using sand cement.

5. Manhole cover or concrete manhole "roofing" to be of adequate load resistance for your conditions (i.e. Heavy duty covers used if traffic passes over the manhole.

6. At least 2 flexible joints should be provided (as r”Rockers”) within 0.9m of the manhole, one each side of the chamber on the pipe run.

7. Internal ladders to be used in manholes over 4.5m deep

8. Pipes over 0.15m dia in deep manholes should have brick-on-edge arch formed over them.