

CHAPTER 18

Manholes



MANHOLES

National Building Regulations : Manholes / Inspection Chambers (I.C)

D25: Drains passing through or under walls or under buildings

1. Where any drain passes under a wall, other than a freestanding wall, such drains shall be of cast-iron pipes and completely encased in concrete no less than 100mm thick.
2. Where any drain passes through a building, that part which is within the building shall –
 - a. Be adequately supported throughout its length without restricting thermal movement, with any fitting giving such support being securely attached to the building; and
 - b. Be so placed that all junctions, bends and access eyes are readily accessible.

D.26: Means of access to drain

1. Every drain shall have such means of access as may be necessary for inspection and cleansing and without prejudice to the generality of the foregoing:
 - a. There shall be an inspection chamber or manhole:
 - i. At each point where there is a change of direction or gradient;
 - ii. On drains within 12m from any junction, and between the drain and any other drains unless there is an inspection chamber or manhole situated at such junction;
 - iii. Within 1.5 m of the point of junction between a drain and a connecting sewer unless there is an inspection chamber or manhole situated at such junction;
 - iv. At the highest point of a drain unless there is an access eye at that point; and
 - b. No part of a drain shall be at a distance of more than 25m (measured along the line of the drain) from an inspection chamber, manhole or other access point situated on the same drain.
2. Every inspection chamber or manhole shall;
 - a. Be so designed and constructed of brickwork, concrete, precast concrete sections or other suitable and durable material, so as to:
 - i. Sustain the load which may be imposed upon it and
 - ii. Be watertight
 - b. Be of such size and form as to permit ready access to the drain for inspection, cleansing and rodding;
 - c. Have a removable and non-ventilating cover of adequate strength, constructed of suitable and durable material;

- d. Where the depth of a manhole so requires, an approved means of access as to provide a safe approach to the level of the drain; and
- e. Where the part of the drainage system within the inspection chamber or manhole is constructed of open channels, and provided with benching of a smooth impervious finish, and so formed as to guide the flow of sewage towards the pipe into which the main channel discharges and provide a safe foothold.

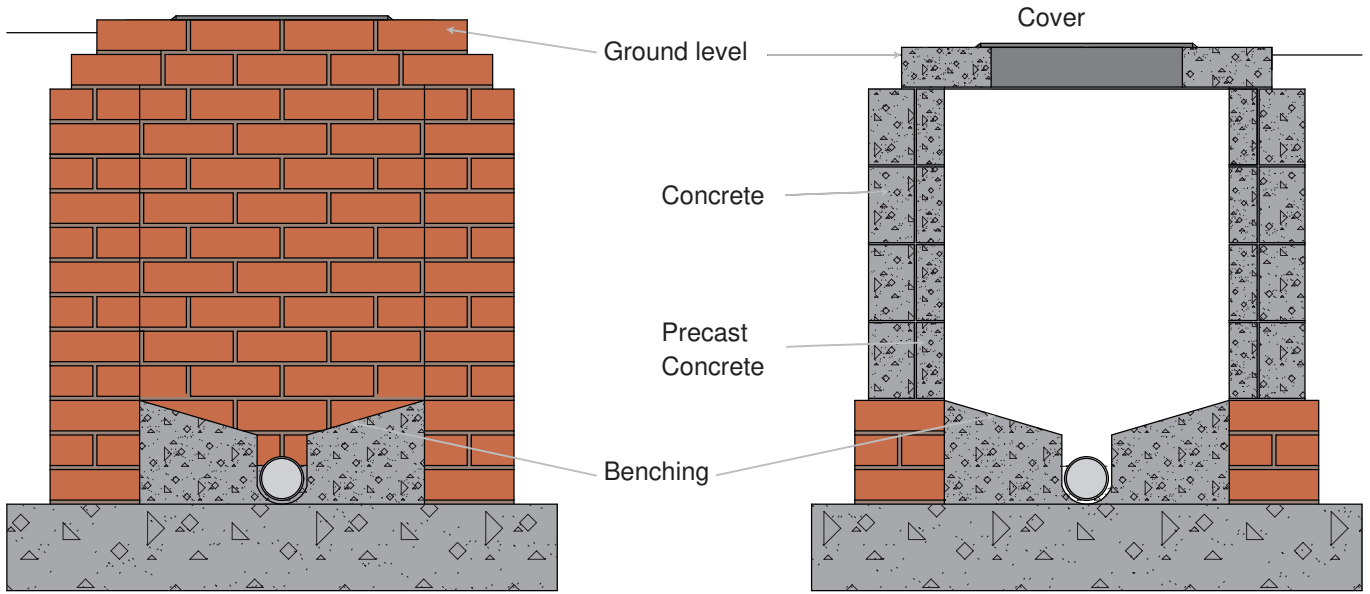
3. Any inspection chamber or manhole within a building, other than an inspection chamber or manhole giving access to part of a drain which is constructed with inspection fittings having watertight covers shall be:
 - a. So constructed in conjunction with its frame and cover as to be watertight when subjected to the maximum internal pressure which could be caused by blockage of the drainage system at any point below the inspection chamber or manhole; and
 - b. Fitted with a removable and non-ventilating cover of adequate strength constructed of suitable and durable material which is:
 - i. Fitted in a frame with an airtight seal and
 - ii. Secured to the frame by removable bolts made of corrosion-resistant material.

D27:Junctions

1. Any connection at a junction between:
 - i. A ranch drain and any other drain; or
 - ii. A drain and connecting sewer where such drain and connecting sewer are not in line shall be so made that the tributary drain discharges its contents into the other drain or connecting sewer obliquely in the direction of flow in that other drain or connection sewer.
2. Any connection between a drain and connecting sewer shall be so made that the connection will remain watertight and otherwise satisfactory under all working conditions. Note this connection is usually done by the local authority.

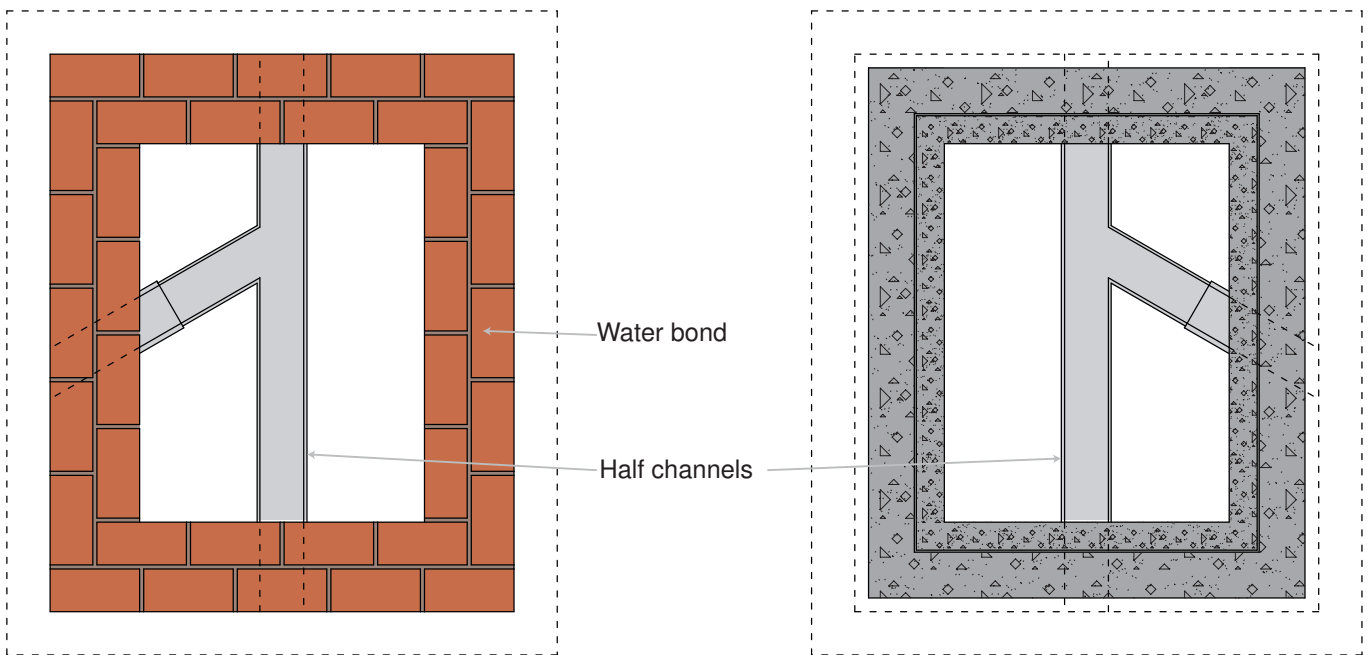
D28:Test for drains

Every drain laid in terms of these regulations shall be tested in accordance with the test contained in prescribed manuals by the local authority.



Section (a)

Section (c)



Plan (b)

Section (d)

18.1 - Half Channels

