

# Gas Reception Sump

- Passive or mechanical extraction
- Interconnection facility
- Permits use of standard pipe
- Compatible with others gas control products



In this example, the membrane is shown under the oversite slab, rather than above it. Whichever option is selected to suit the construction in question, the outlet from the reception sump is always linked to the membrane using a service pipe flashing.

## designers' comments

NHBC 41-D5 stipulates a detailed investigation must be carried out when a site is suspected to have contamination hazards. Radon gas is such a hazard. The cost of incorporating a sump within the granular fill of a unit when constructing, is minimal. In Ireland it is mandatory for all new houses to have a sump.

## technical observations

Inhalation/exist ratio exceeds 1:4. Single sump should not service an area exceeding 250m<sup>2</sup>. Single 100m pipe may service up to a maximum of 5 sumps, arranged as four spurs off main sump.

### problem

To service evacuation of gas from below integrity shield.

### introduction

The gas reception sump when positioned below a floor slab (incorporating an integrity shield in the form of membranes and barriers), provides a passive gas exit route via a ventilation stack.

### solution

The gas reception sump is designed to be incorporated within the granular fill, beneath the floor slab. The reception sump receives gas from underneath the building and promotes passive discharge via a vertical 110mm PVC ventilation stack. The stack is terminated above the roof finish with a tile/slate external roof ventilator.

Suitable for new-build or existing properties, the reception sump may service up to 250m<sup>2</sup> floor area, positioned in the most central

location to promote even/optimum evacuation. The sump has integral inhalation apertures and inlet/outlet portholes to permit spur connection to adjoining sumps should the size or layout of the property dictate. A maximum of 5 reception sumps is permitted per 110mm ventilation stack.

Where appropriate and if necessary, mechanical extraction can be achieved by the introduction of a powered fan, sited in the roof space. Where sub-floor depressurisation is created using a gas reception sump, it is recommended that the sump should not influence an area exceeding 250m<sup>2</sup>.

Sumps should be positioned centrally and the serviced area should not exceed a distance from the sump of 15 metres. To promote maximum depressurisation, fill used underneath the slab around the sump should not contain excessive fines. In calculating

the performance of sub-floor depressurisation, it is assumed the water table is not high and that any measures to exhaust gases will not be influenced by the waterlogged/flooded areas.

### sizes

Sump approximately 510mm x 240mm plus porthole projections which permit connection to 110mm standard vent/stack pipe. Inhalation apertures exit ratio exceeds 4 to 1 for optimum performance. Roof tile universal ventilator and roof slate universal ventilator are described elsewhere within this manual.

### bill of quantity wording

Gas reception sump

Position sump centrally to service area not exceeding 250 m<sup>2</sup>. Connect extraction stack pipe. Spur connect additional sumps to service static pockets or sub-floor

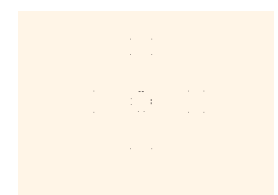
areas as appropriate. Ensure fill used around sump does not include excessive fines. Observe manufacturer's instructions which accompany every delivery. Gas reception sump total number = ....

### ordering/regulations

See inside back cover for details.

### related products and applications

Refer to all products in this section.



Each sump has four side connections and one top connection. This permits interconnection if a large area involving multiples of sumps is required.

