

TECHNICAL GUIDANCE

AIR BRICKS TO UNDERFLOOR VOIDS - RELATIONSHIP TO GROUND LEVELS

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(First Issue)

QUESTION

In relation to external ground levels where should air bricks, which provide natural ventilation to underfloor voids, be positioned?

CONSIDERATIONS

- Ventilation to voids below suspended ground floors is normally installed to prevent condensation but may also form an integral part of the design for gas protection measures preventing the build-up and aiding dispersal of ground gases, including Radon.
- Air bricks serving underfloor voids should be located and installed to provide good airflow and adequate cross ventilation to meet NHBC Standards and building regulations. This also applies to any internal/sleeper walls.
- Air bricks should be kept clear of obstructions that could reduce or block the required airflow. Air bricks set at, or close to, ground level may flood and allow rainwater to enter the under floor void.
- Air bricks located below general ground level with small recesses in front, often formed with raised kerbing/edgings etc., are at risk of blockage from debris accumulating in the recesses.

ANSWER

The following guidance relates to sites that do not have any ground gas issues. On gassing sites where the ventilation void will form part of the gas protection measure, and may have been specifically designed for the gas conditions on the site, the designer may need to be consulted on any changes to the intended design/construction.

Air bricks may be located either above or below DPC level and where possible on all sides of the building.

Ideally air bricks should be located at least 75 mm above hard and soft landscaped areas to reduce the risk of being obstructed or flooded (see diagram 1).

Air bricks may be located at or near ground level where measures have been taken to avoid flooding by sloping the ground away from the air brick and providing drainage where the ground is not free draining (see diagram 2).

Due to potential on-going variations in surface level with gravel and cultivated ground, including the risk of obstruction by vegetation, air bricks located over such surfaces should not be set at ground level.

Air bricks located below general ground level, where the airflow relies on small recessed enclosures in front, are not acceptable as regular clearing of debris from the recesses, to maintain ventilation, is unlikely to occur. An acceptable arrangement is to provide a continuous strip of lowered ground extending at least 600mm in front of the air bricks. Any area of reduced ground level should be free draining or drained to prevent flooding, a 50-75 mm deep gravel strip may help in this respect (see diagram 3).

The following diagrams illustrate the principles outlined above.

Sections through telescopic under floor vents



Preferred approach where air brick is at least 75mm above ground level.

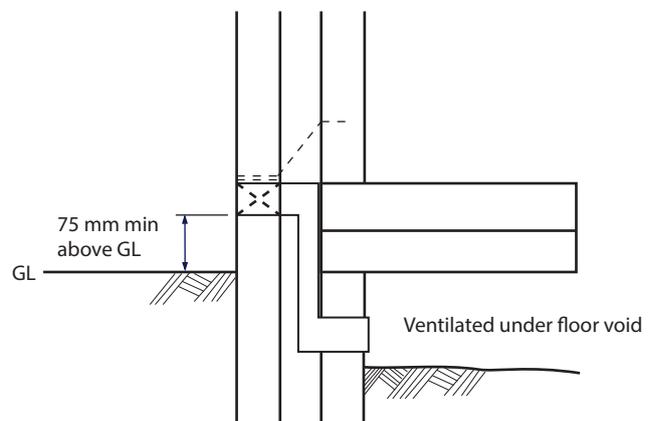


Diagram 1



Air bricks between ground level and 75mm above ground level is acceptable if ground slopes away from building and is suitably drained and the ground is hard landscaped.

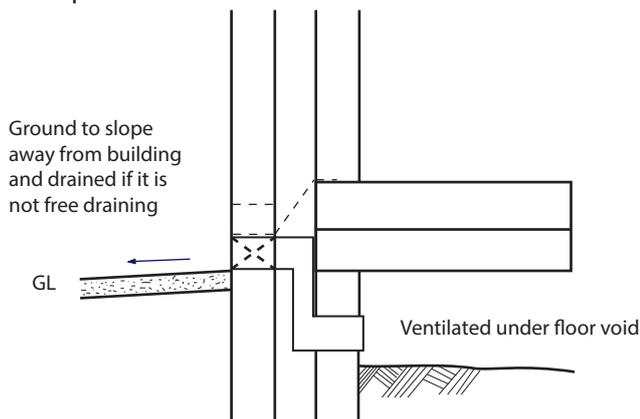


Diagram 2



Air bricks below general ground level are acceptable with continuous strip of lowered ground extending at least 600mm away from front of air brick(s). Area of reduced ground level to be free-draining or drained to avoid flooding, a gravel strip may help .

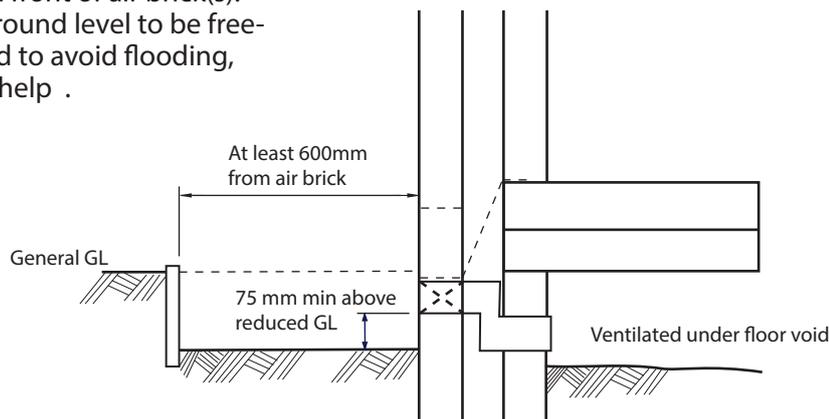


Diagram 3