

Roof drainage by means of Siphonic drainage

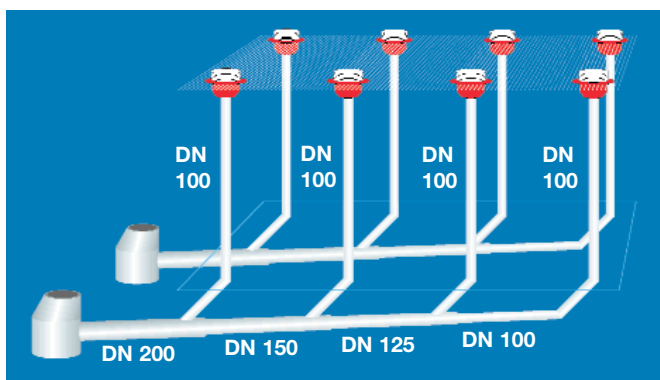
Roofs with a large surface can be drained on the basis of two different principles, either by means of gravity drainage or by means of Siphonic drainage. The drainage by means of open channels according to EN 12056 and DIN 1986-100 requires a maximum filling ratio of 0.7 (height/diameter = 0.7) for the necessary ventilation of the rain water drainage system.

In contrast to that, the siphonic drainage aims at a filling ratio of 1.0. This requirement is met by using specially developed roof and channel gullies which prevent the admission of air by a cap closed on the top. The drains

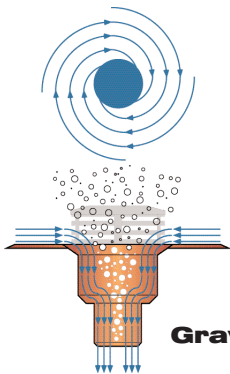
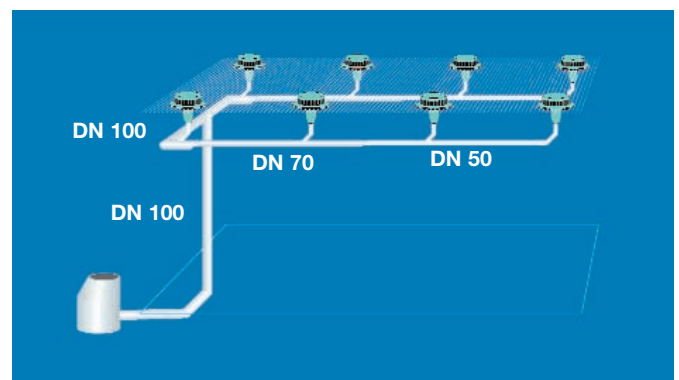
conform to EN 1253 "Drains for buildings".

The siphonic drainage system has to be optimized by a hydraulic calculation in such a way that the pipelines fill up systematically in cases of heavy precipitation. The total height difference between the roof drain and the backflow level can then be used for the pipe dimensioning.

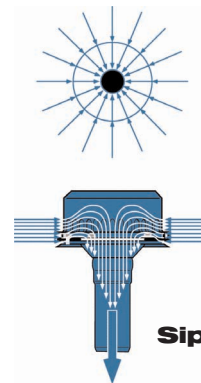
Gravity drainage



Siphonic drainage



Gravity drainage



Siphonic drainage

Advantages of Siphonic drainage compared with conventional drainage:

- **A higher discharge rate**
as a result of a closed flow circuit allows smaller dimensions
- **Space gained**
due to horizontal piping without gradient below the ceiling
- **Lower expenditure of material**
due to the use of smaller pipe dimensions and shorter pipe lengths
- **Less input for the construction**
due to fewer downpipes, foundation outlet connections and penetrations as well as shafts and pipes in the ground
- **High self-purifying power**
of the system due to high flow velocities