Emergency overflow

Emergency overflow explained

According to the standards every flat roof should be able to cope with the 5 minute rainfall which occurs ones in a hundred years. A light-construction (steel) roof should always have an emergency overflow system. With all other roofs it has to be checked if an emergency overflow system is necessary. This depends on the construction and shape of the roof and the expected rainfall. The emergency overflow should be able to drain the amount of rainfall exceeding the amount on which the standard system was dimensioned or even the maximum hundredyear storm (different per country).

In a standard situation an emergency overflow is a rectangular or round opening. This is for sure the most economical solution but unfortunately not always possible or desired. In many projects it is necessary to drain the extra rainfall with emergency overflow roof outlets which are placed higher than the roof surface. An emergency overflow system can be constructed in a number of ways:
- Spouts through the roof edge
- Traditional gravitational system
- Roof drainage siphonic system

In case of a siphonic emergency overflow system, the location of the emergency overflow roof outlets is important in order to prevent theintake of air. The location must be determined in collaboration between the builder and the designer of the emergency overflow system.

In addition, the roof outlets and the connected pipes of the emergency overflow system can be compartmentalised into smaller drainage areas, for which every collector has a separate outlet. The emergency overflow system may not be connected to the sewer. The distance between individual emergency overflow roof outlets may be no more than 30 m.

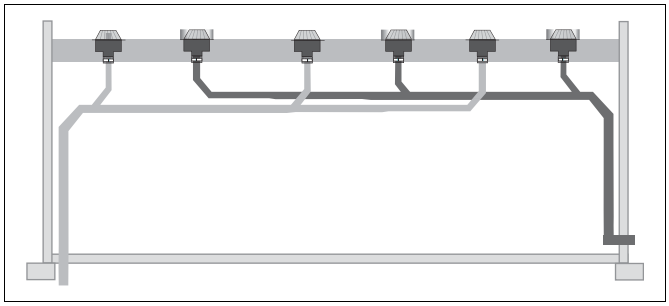
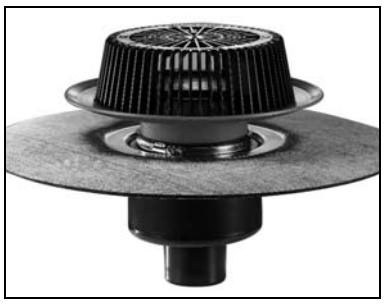


Illustration 1.1 Siphonic roof drainage system with siphonic emergency overflow (not connected to sewer)

Akatherm emergency overflow solution



Akatherm offers an overflow element integrated into the roof outlet Akasison X62. The overflow element can be adjusted in height depending on the maximum allowed water weight on the roof, this relates to the construction strength of the roof.

Illustration 1.2 Roof outlet Akasison X62 NA

The roof outlet Akasison X62 NA can be adjusted between a height of 35 and 55 mm and has a capacity of 17,3 l/s at 80 mm water with a 35 mm overflow height (capacity as defined in standard EN 1253).

Installation of the emergency overflow

The installation of the emergency overflow is the same as for the roof outlet Akasison X62 except for the last 2 steps. First install the roof outlet into the roof and follow the below two steps.

1 Adjust emergency element to the right height
The overflow element can be adjusted by loosening the screw clamp. Then adjust the red overflow element to the correct height and fasten the screw clamp again.

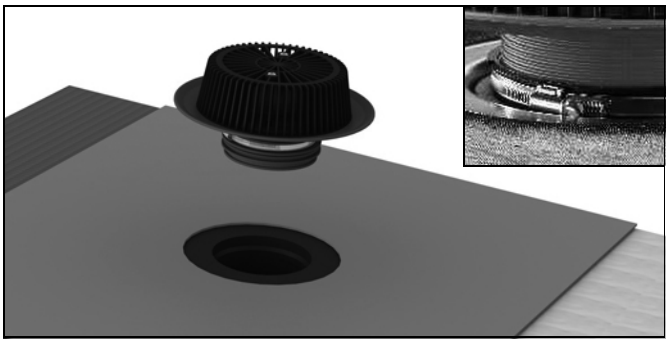


Illustration 1.3 Adjust height

2 Place emergency element in roof outlet body

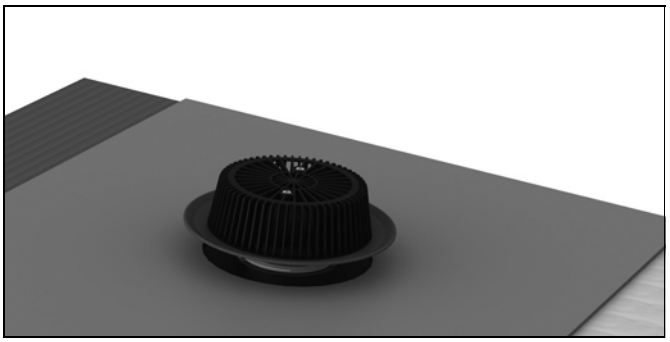


Illustration 1.4 Place emergency overflow element