



Quality Alert

Emergency overflow Weirs for Valley & Parapet gutters

The inclusion and correct height for gutter weir overflows is crucial for effective rainwater water drainage and preventing **flooding of the building** or even **Structural collapse** of the roof under weight of water. Here are some guidelines to consider:

- Position the overflow at a level that prevents water from breaching the top of the gutter or flashing points, depending on the type of gutter system.
- Design the overflow to allow adequate flow of water to drain without causing back-ups.
- Ensure visibility of the overflow point to alert occupants of any issues with the gutter system.
- Install the overflow at a level slightly higher than the outlet to prevent water from backing up into the building.
- Regular maintenance and cleaning of the gutter system are essential to ensure proper functioning and compliance with building regulations.

What do Building Regulations Part H state?

Clause 1.2 Where the design incorporates valley gutters, parapet gutters, siphonic or drainage systems to flat roofs, and where over-topping of these systems would have particularly high consequences, such as water entering the building, wetting of insulation, or other dampness the design should be carried out in accordance with BS EN 12056.

What does BS EN 12056-3:2000 note?

7.4 Emergency Outlets

Overflows or Emergency outlets should be provided on Flat roofs with parapets and in non-eaves gutters in order to reduce the risk of overspilling of rainwater into Building or structural overloading.

ND.2

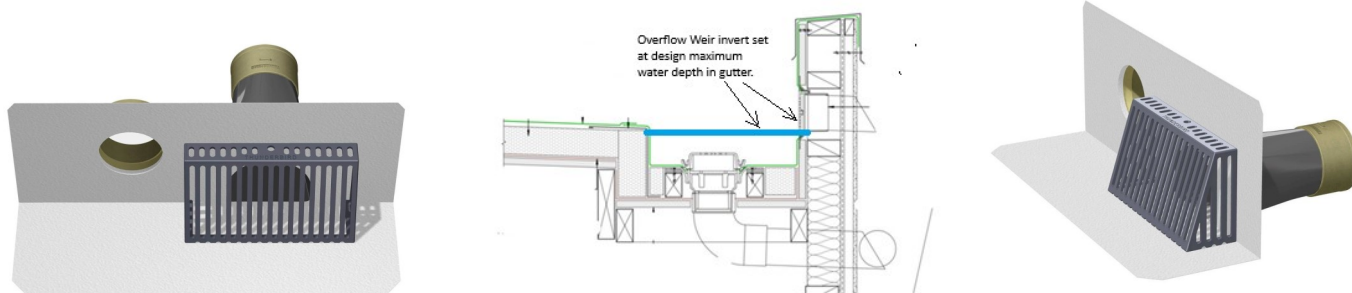
For Valley and parapet gutters an outlet should be positioned so that the direction of flow is not changed sharply (e.g. through 90 degrees just before reaching it). Where overflowing of a gutter cannot be tolerated, a minimum of two outlets should be provided [see 7.4]. It may also be necessary either to provide a weir overflow at the end of the gutter, discharging outside of the building, or to design for a rate of rainfall that corresponds to a high degree of security (See NB 3.1).

NE.2.6

Overflow Weirs are used to discharge water clear of a building when the flow in a gutter exceeds the design rate or when a partial or complete blockage occurs at an outlet.

Overflow Weirs may be installed at either the upstream or downstream ends of the gutter.

An upstream overflow is illustrated in figure NE.2 The crest of the weir needs to be above the design depth of flow in the gutter at the upstream end. At the design rate of flow, such overflows do not generally have sufficient capacity to prevent the gutter overflowing along its length if a complete blockage occurs at the outlet.



Generally the weir invert should be set at the top of the maximum design depth of water in the gutter. The Weir should have sufficient capacity to deal with the design flow at the ends of the gutter lengths in order to prevent overtopping of the gutter and backing up of water onto the roof surface.

This advice should be used, where the above is applicable, and the information discussed with your team highlighting the following points:

- **Roofs with Parapet gutters and valley gutters should always have emergency overflow Weirs.**
- **The Size and location of the Weirs is crucial to ensuring the rainwater cannot overtop the gutter on to the roof surface causing structural overloading or water penetration into the Building**

Toolbox Talk Packages (put an 'x' next to the related work packages):

Brickwork / Blockwork	Doors & Windows	Roof	x	Drainage	x	Frames	Roads, Paths, Pavings & Surfacing	Site preparation works
Substructure	FFE	Flooring		Internal walls & partitions, Ceilings		Joinery / General Carpentry	Painting	Fire & Lightning protection
Walling (Tiling)	Electrical installations	Services / Systems		Water installations		DFMA (Offsite Manufacture)	Design	x Miscellaneous



Everyone has the right to be

100% Safe