

# Plumbing Regulation Advisory Note

Plumbing Regulation Advisory Note 01/09

Current: May 2009

## HIGH FRONTED GUTTERING

### PURPOSE

The purpose of this PRAN is to provide advice for plumbers, building professionals and consumers relating to the installation of high fronted gutters.

It does not replace the need to ensure that the gutter installation meets the performance requirements of the Building Code of Australia (BCA) or the Plumbing Code of Australia (PCA) as appropriate.

### BACKGROUND

High fronted gutters are generally selected to hide the lower edge of roof tiles or roof decking/sheeting. However, if a gutter, including a high fronted gutter, overflows, it can result in water flowing back into the roof or building. If this occurs over a prolonged period it can permanently damage the internal fabric or structure and must be avoided.

### INSTALLATION REQUIREMENTS

In Tasmania, all stormwater and drainage work must, by law, comply with the relevant performance requirements of the PCA. Guttering which is designed and installed in accordance with AS/NZS 3500.3 *Stormwater drainage* or AS/NZS 3500.5 *Domestic installations* is deemed-to-satisfy Performance Requirements DPI.1 to DPI.4 of the PCA and Part 3.5.2 of the *BCA Volume 2 Housing provisions* as appropriate. Compliance with Acceptable Construction Practice in Volume 2 of the BCA may also satisfy the Performance Requirements provided certain conditions are met.

Manufacturer's installation instructions are only a guide and do not overrule the need for the installation to comply with AS/NZS 3500.3 or AS/NZS 3500.5.

Where an installation includes the replacement of an existing guttering system, care needs to be taken to ensure the new system complies with current standards.

### PREVENTIVE MEASURES AND DESIGN CONSIDERATIONS

Where a gutter overflow can cause water to flow back into a building, including into the eaves, sufficient overflow measures must be included in the design and installation of the guttering system. The installer is responsible for ensuring the guttering system has sufficient drainage, downpipes and adequate overflow measures for the expected rainfall intensities in the area.

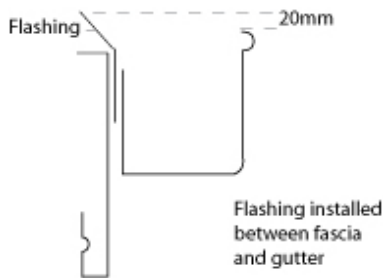
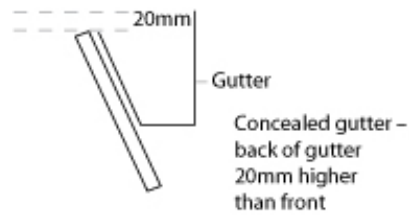
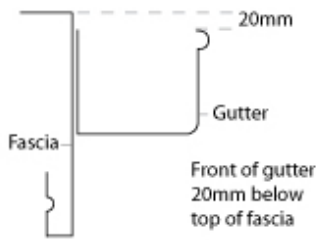
Information and simplified roof catchment calculations can be found in Standards Australia publication *HBI 14, Guidelines for the design of eaves gutters and box gutters*, which is intended to be read in conjunction with AS/NZS 3500.3 or AS/NZS 3500.5 for design work on gutters and downpipes.

## OVERFLOW MEASURES

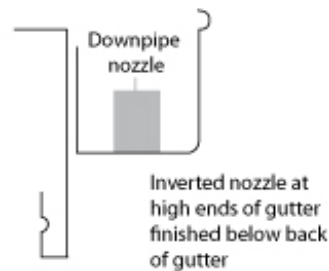
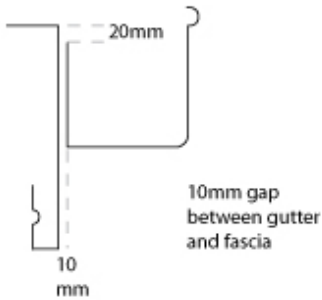
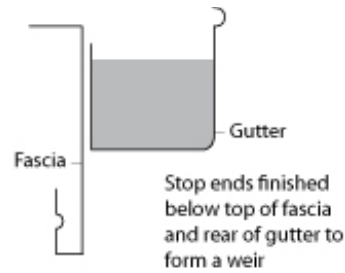
If water cannot flow back into the building, e.g. gutter fixed to roof beams or rafters with no eaves lining, no overflow measures are required.

If water can flow back into the building, e.g. through eaves lining, then overflow methods must be provided. The following diagrams are examples of continuous and non-continuous overflow measures that may be used in combination with each other to meet the relevant performance requirements.

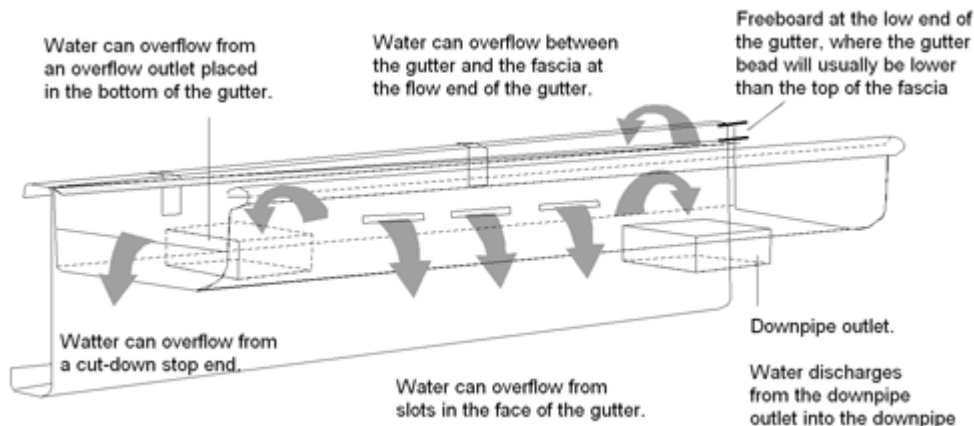
### Continuous overflow measures



### Non continuous overflow measures



### Examples of overflow measures



## OTHER MEASURES

Other non-continuous measures include the use of rainwater heads with slots or weirs.

Slotted gutters may also provide an overflow measure, however the slots must be of sufficient size. It is recommended that the gutter manufacturer be consulted on this.

It is important to note that gutters may become blocked anywhere along their length, so non-continuous overflow measures may not be sufficient to prevent water flowing back into a building.

## MAINTENANCE

Blockages of roof drainage systems, e.g., by snow, hail and debris and therefore should be subject to frequent inspections and maintenance.

A frequent cause of overtopping of gutters is inadequate inspection and cleaning and not the intensity of rainfall. Sizing of stormwater drainage installations assumes that the responsible owner or manager arranges regular inspection and cleaning to remove any obstructions that would reduce the installation's hydraulic capacity or design lifetime, or both.

Obstructions that could cause partial or complete reduction in the hydraulic capacity are windborne plastics, drink cans, builders' refuse, balls, bird nests, items deposited by birds, dead birds, leaves, moss, mortar, silt or similar.

Guards on gutters and gutter outlets and screens on outlets from on-site stormwater detention facilities are installed to prevent reduction in hydraulic capacity due to obstructions. Installation of such guards and screens does not eliminate the need for regular inspection and cleaning.

Guards used with rainwater goods might collect debris during high intensity storms, in spite of regular inspection and cleaning, and for this reason it might be better not to install such guards.

In regions subject to snowfalls, for roof drainage systems, there shall be no effect on size but precautions are necessary to minimize the entry of rainwater or meltwater, or both, into buildings.

Sometimes eaves gutters are not used in alpine regions because the stormwater from roofs is collected at ground level, generally in site stormwater channels.

## FURTHER INFORMATION

For more details about residential guttering, the *Plumbing Regulations 2004* and the Tasmanian Plumbing Code 2006 contact your local council; or

Workplace Standards Tasmanian Helpline:

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