



# CONCEALED GUTTERING

**It may look good, but poorly designed or not maintained concealed guttering can result in major problems.**

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**C**oncealed or internal fixed guttering is guttering fixed behind the fascia as opposed to a fascia board with the guttering fixed onto the outside surface. Concealed guttering systems may leak back behind the exterior cladding and rot the exterior frame, especially at the bottom plate. The rot can extend up and into the wall frame.

## Where is the water going?

I saw this problem when carrying out two separate property inspections that had rotting frames and skirting at the floor line. The exterior wall claddings on these properties were brick veneer and plastered textured-coated fibre-cement. At one property there were insufficient overflows provided to the spouting system. The other dwelling had insufficient overflows and downpipes.

During heavy rain the guttering overflows and has nowhere to exit. The water tracks towards the exterior cladding, across the top of the soffit and escapes onto the wall underlay and then to the bottom plate. The bottom plate starts to rot, and the rot travels along the framework in all directions. The new



Stages in the installation of a concealed guttering system.



'full height wall underlay system' may handle this problem better than black overlapped building paper. But it is preferable to avoid the problem in the first place.

Poorly designed guttering with insufficient downpipes and overflows cannot cope with extreme weather conditions, which are becoming more common. However, there are some solutions for new or existing buildings.

## Solutions for new dwellings

To avoid this type of rot damage occurring in new buildings:

- Consider not using concealed spouting systems.

- Calculate the number of downpipes required from the roof size dimensions and install overflows within 1 m of each downpipe outlet. A formula is given in E1/AS1 or BRANZ Bulletin 350.
- Improve the number of stormwater drain inlets to the drain system to avoid overloading it.
- Ensure sufficient overflows are incorporated.
- Take extra care with run-off calculations if using drainage 'siphoned systems'.

## Remedial solutions

When a remedial solution is needed:

- Calculate roof catchment and outflows.
- Install more downpipes and overflows.
- Upgrade stormwater drains to carry the water flow.
- Check spouting systems where the downpipes are joined together into one 100 mm pipe and there is no overflow to prevent overloading.
- Remove external claddings and internal linings, replace rotting framing and then re-clad affected areas.
- Check with your building consent authority regarding the need for a building consent before undertaking any remedial work. ◀



Looking up at the underside of the soffit and concealed guttering with drainage holes. Water staining is visible.