

7 : MECHANICAL SERVICES

Evaporative Coolers

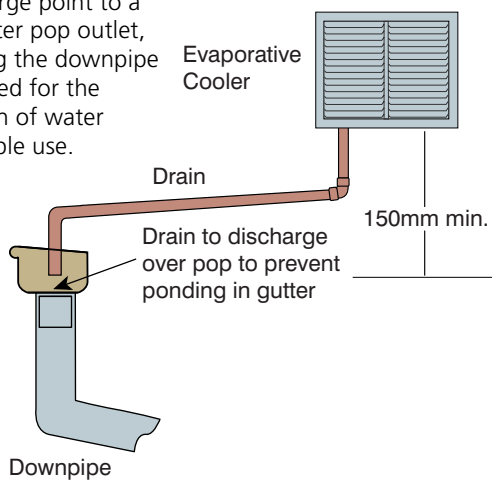
Drainage provisions for evaporative coolers

The discharge pipe from an evaporative cooler must be sized in accordance with the manufacturer's requirements and must have continuous fall to the termination point.

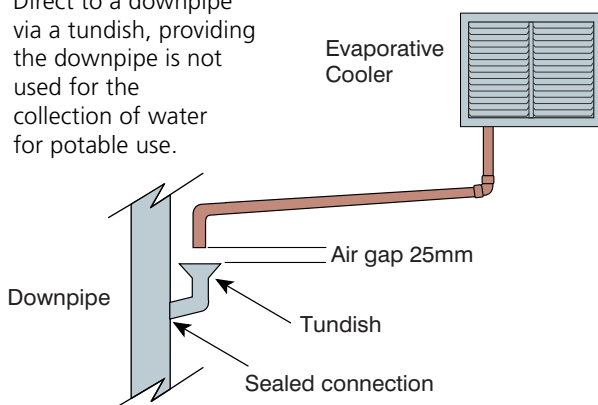
The discharge pipe must have an internal diameter of no less than the internal diameter of the unit connection provision supplied by the manufacturer.

The following diagrams are typical and provide guidance for evaporative cooler installers on the permitted ways to discharge the drains from evaporative coolers in accordance with the Plumbing Standards Regulations.

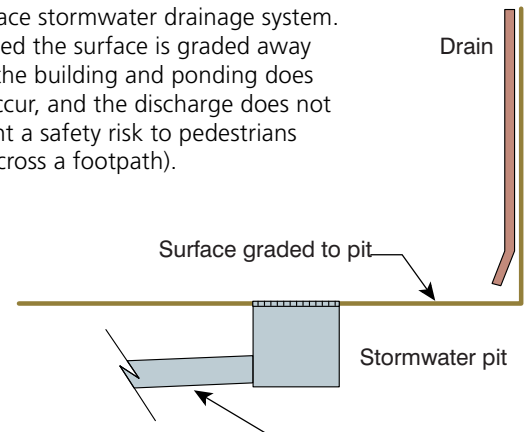
1. A discharge point to a roof gutter pop outlet, providing the downpipe is not used for the collection of water for potable use.



2. Direct to a downpipe via a tundish, providing the downpipe is not used for the collection of water for potable use.

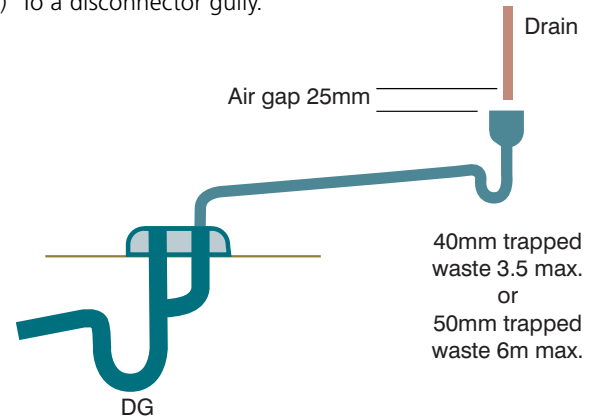


3. A surface stormwater drainage system. Provided the surface is graded away from the building and ponding does not occur, and the discharge does not present a safety risk to pedestrians (eg. across a footpath).

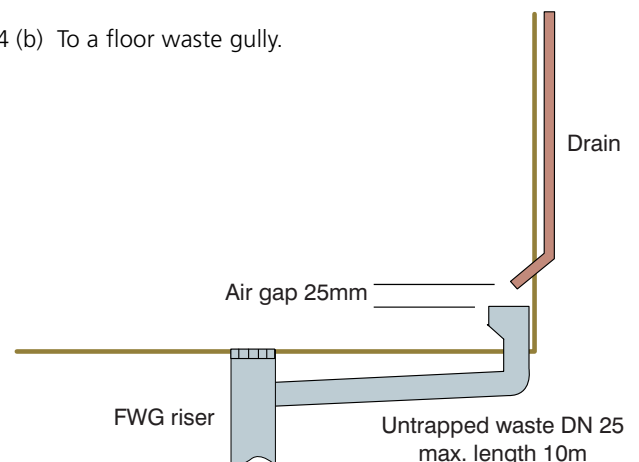


4. A sanitary drainage system via a tundish in one of the following forms in accordance with AS/NZS 3500.2.2 – 1996 clause 4.6.7.8 & 11.22

- 4 (a) To a disconnecter gully.



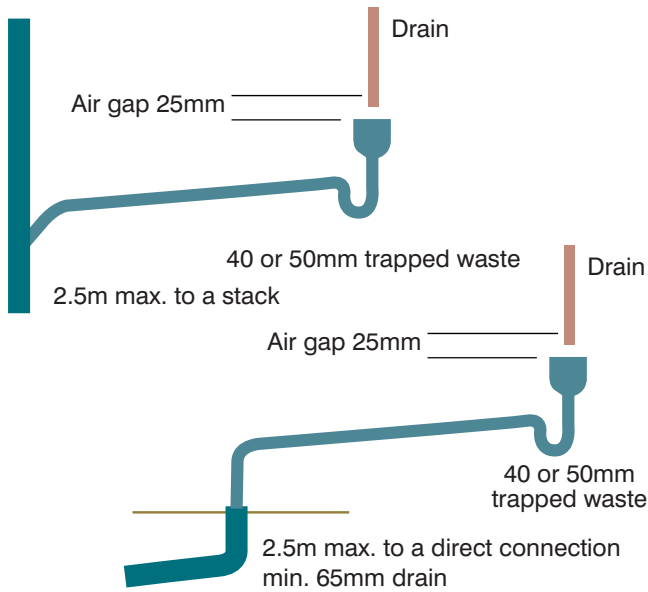
- 4 (b) To a floor waste gully.



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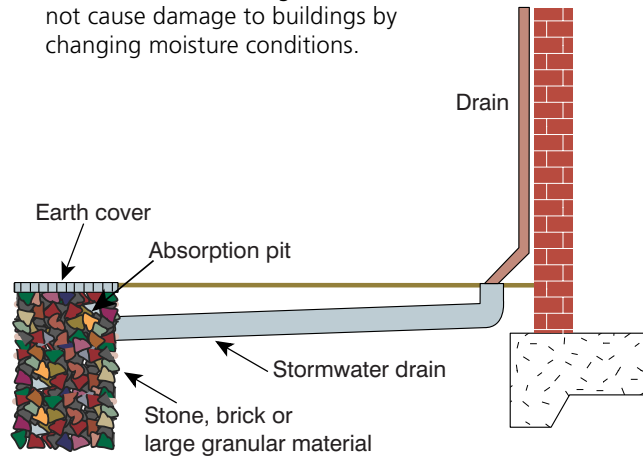
Evaporative Coolers Cont.

4 (c) Direct to a sanitary drain.



5. An absorption pit. Provided the following conditions can be met:

- Only permitted where no sanitary or surface water drainage is available.
- The pit can only be constructed in permeable ground.
- Of a size appropriate for the volume of discharge.
- Located so the discharge water will not cause damage to buildings by changing moisture conditions.



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Split System Air Conditioning

Condensate drainage for split system air conditioners

Drain Material

The material used for the drain must be suitable for the purpose and if a plastics material is used it must be of a type suitable for installation in direct sunlight.

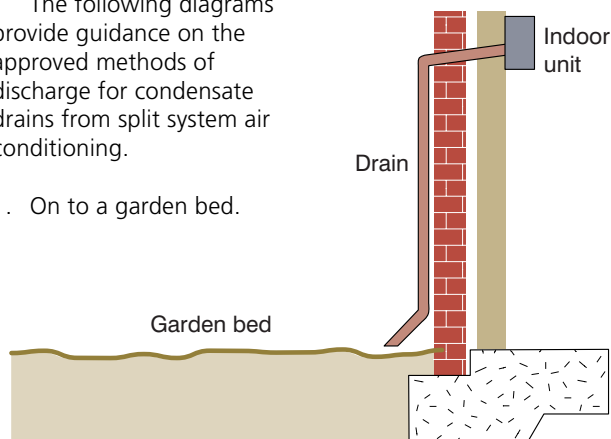
• Pumped Condensate

If condensate from an indoor unit has to be pumped to its drainage termination point it is essential that the pump is installed in an accessible position for service/maintenance purposes.

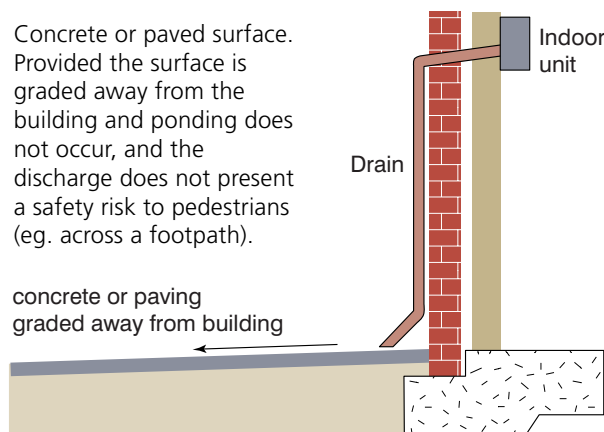
• Termination points

The following diagrams provide guidance on the approved methods of discharge for condensate drains from split system air conditioning.

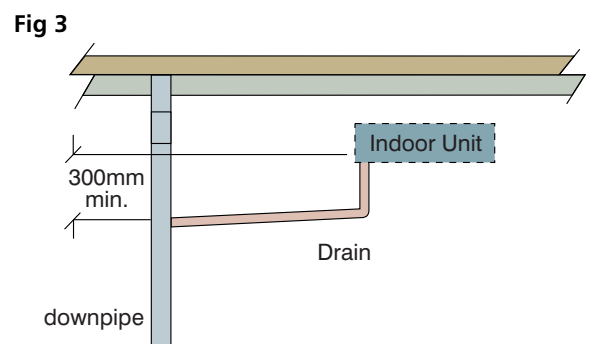
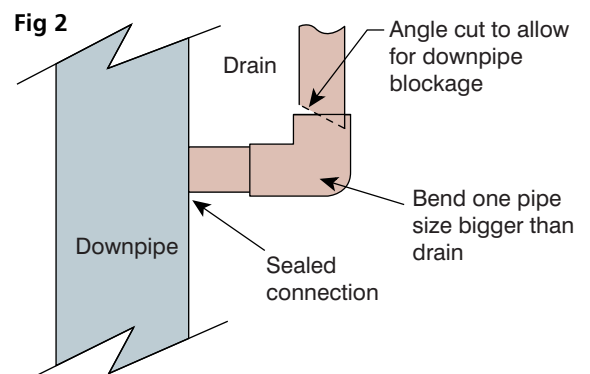
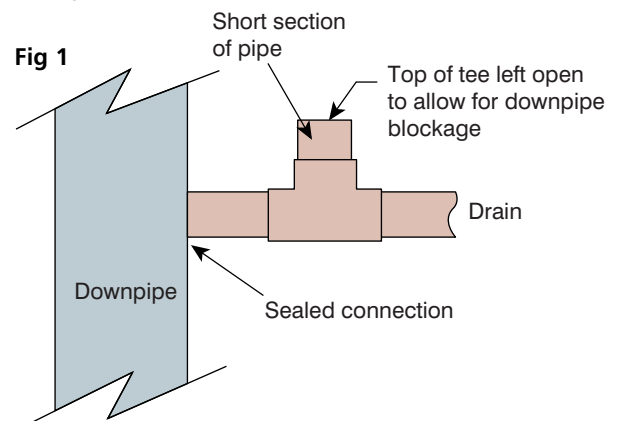
1. On to a garden bed.



2. Concrete or paved surface. Provided the surface is graded away from the building and ponding does not occur, and the discharge does not present a safety risk to pedestrians (eg. across a footpath).



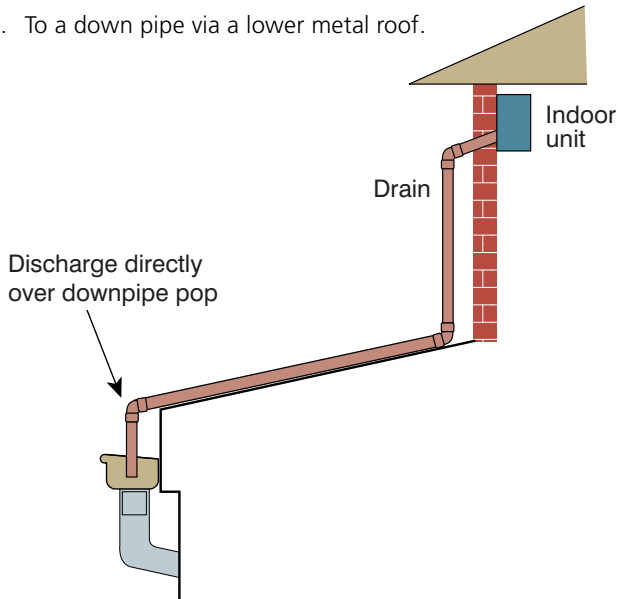
3. To a downpipe provided the following two points are observed;
 - (a) Provided there is a form of disconnection to prevent leakage into the building from the indoor unit if there is a blockage in the downpipe. Figs 1 & 2.
 - (b) The connection to the downpipe is a minimum of 300mm below the drain outlet of the indoor unit. Fig 3.



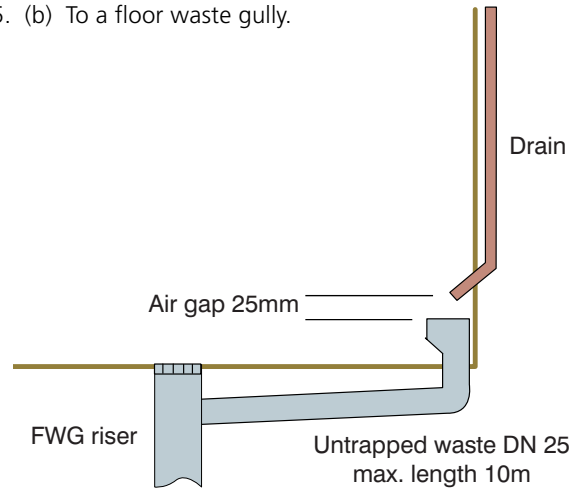
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Split System Air Conditioning Cont.

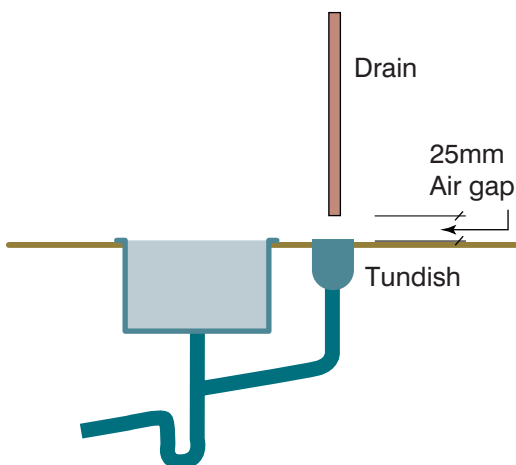
4. To a down pipe via a lower metal roof.



5. (b) To a floor waste gully.



5. A sanitary drainage system via a tundish in one of the following forms in accordance with AS/NZS 3500.2.2 – 1996 clause 4.6.7.8 & 11.22.
5. (a) To a fixture trap provided the connection is above the level of the water seal and the top of the tundish is above the overflow level of the fixture.

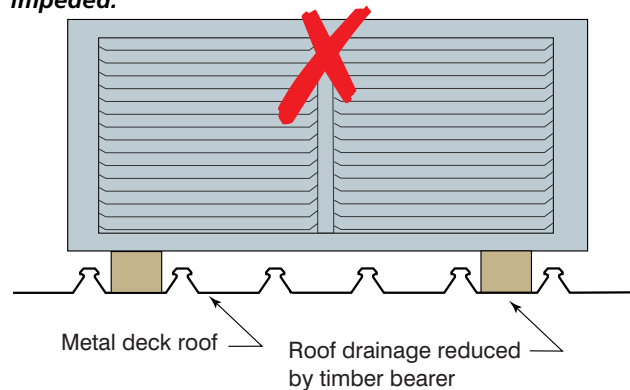


Placement of an outdoor unit on a metal deck roof.

The following provides guidance for the installation of small domestic size outdoor units on a metal deck roof.

- You must ensure that the weight of the unit is not excessive for the design of the roof structure.
- Larger units may require engineering computations to ensure adequate strength of the roof structure.
- If timber is to be used as a support material on a metal roof it should be redgum to minimise the possibility of staining the roof as it weathers. The redgum can be painted if necessary to further protect the timber and the roof.

It is not permitted to install timber bearers in the tray section of a steel deck roof as support for an outdoor unit as the flow of water in the tray is impeded.

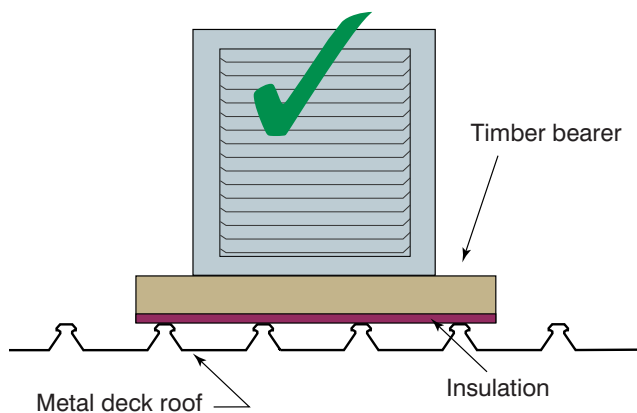


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Split System Air Conditioning cont.

If timber bearers are to be used as a support ensure they are placed **on top** of the ribs and insulated from the metal by a suitable material (eg rubber waffle pads) to prevent corrosion occurring.



Placement of an outdoor unit at ground level.

An outdoor unit should be mounted level on appropriate concrete slabs and secured by means of suitable brackets to an adjacent wall.

